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OF URBAN ECONOMY in KHARKIV**

ENGLISH FOR ECOLOGISTS

TUTORIAL

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M71

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Навчальний посібник призначений для студентів екологічних спеціальностей, які вивчають англійську мову. Метою курсу є формування необхідної комунікативної спроможності майбутніх фахівців у сферах професійного та ситуативного спілкування в усній і письмовій формах, навичок практичного володіння іноземною мовою в різних видах мовленнєвої діяльності, обумовлених професійними потребами.

Mishchenko K. O.

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The tutorial is for the students majoring in Ecology aimed at mastering English. The aim of the course is to create necessary communicative ability in the fields of professional and situational communication both in oral and written forms, and to develop skills for practical command of a foreign language in various types of speech activity, caused by professional needs.

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INTRODUCTION

The objective of this textbook, “English for Ecologists”, is to facilitate English as a second language for the students who intend to get a job in the field of Ecology. It will introduce basic concepts and definitions required to establish a university course. The textbook consists of 12 units. Each unit focuses on specific aspects of students’ future professional life to give them all the necessary language acquisition to become successful participants of communication.

The structure of each unit of the textbook include: *Lead-in*, *Reading*, *Vocabulary Practice* and *Language Practice*. *Lead-in* section is aimed to introduce the main topic of the unit and to engage students’ interest, encourage them to share their knowledge and opinions. The *Reading* part contains the authentic text on the specific topic and focuses on training reading skills. In the *Vocabulary Practice* section students are given series of exercises to practice new language units and terms on the topic. *Language Practice* contains the exercises for revision and consolidation of the main grammar issues providing the students with the flexibility in expressing their views both orally and in writing.

The textbook also contains extra reading tasks for each unit. These texts are given in the *Additional Texts for Reading* section. The *Additional Grammar Tasks* section provides more language and grammar training exercises for revision of each unit of target language. *Vocabulary* section contains all the necessary language units and terms in Ecology students have to know. The Ukrainian equivalent of each word is given there.

“English for Ecologists” is supposed to equip students with the necessary linguistic skills to function successfully in different areas of Ecology. The textbook can be used for 1 and 2 year students as well as for higher level students.

UNIT 1

I LEAD-IN

- a) Do you know the origin of the word *ecology*?
- b) What do the ecologists seek to explain?
- c) What are the ecologists interested in?
- d) Have you heard about Ernst Haeckel?

II READING

Ecology

Ecology (from Greek “house”, or “environment”; “study of”) is the scientific analysis and study of interactions among organisms and their environment. It is an interdisciplinary field that includes biology, geography, and Earth science. Ecology includes the study of interactions organisms have with each other, other organisms, and with abiotic components of their environment. Topics of interest to ecologists include the diversity, distribution, amount (biomass), and number (population) of particular organisms, as well as cooperation and competition between organisms, both within and among ecosystems. Ecosystems are composed of dynamically interacting parts including organisms, the communities they make up, and the non-living components of their environment. Ecosystem processes, such as primary production, pedogenesis, nutrient cycling, and various niche construction activities, regulate the flux of energy and matter through an environment. These processes are sustained by organisms with specific life history traits, and the variety of organisms is called biodiversity. Biodiversity, which refers to the varieties of species, genes, and ecosystems, enhances certain ecosystem services.

Ecology is not synonymous with environment, environmentalism, natural history, or environmental science. It is closely related to evolutionary biology, genetics, and ethology. An important focus for ecologists is to improve the understanding of how biodiversity affects ecological function. Ecologists seek to explain:

- Life processes, interactions, and adaptations
- The movement of materials and energy through living communities
- The successional development of ecosystems

- The abundance and distribution of organisms and biodiversity in the context of the environment.

Ecology is a human science as well. There are many practical applications of ecology in conservation biology, wetland management, natural resource management (agroecology, agriculture, forestry, agroforestry, fisheries), city planning (urban ecology), community health, economics, basic and applied science, and human social interaction (human ecology). For example, the *Circles of Sustainability* approach treats ecology as more than the environment “out there”. It is not treated as separate from humans. Organisms (including humans) and resources compose ecosystems which, in turn, maintain biophysical feedback mechanisms that moderate processes acting on living (biotic) and non-living (abiotic) components of the planet. Ecosystems sustain life-supporting functions and produce natural capital like biomass production (food, fuel, fiber, and medicine), the regulation of climate, global biogeochemical cycles, water filtration, soil formation, erosion control, flood protection, and many other natural features of scientific, historical, economic, or intrinsic value.

The word “ecology” (“Ökologie”) was coined in 1866 by the German scientist Ernst Haeckel (1834–1919). Ecological thought is derivative of established currents in philosophy, particularly from ethics and politics. Ancient Greek philosophers such as Hippocrates and Aristotle laid the foundations of ecology in their studies on natural history. Modern ecology became a much more rigorous science in the late 19th century. Evolutionary concepts relating to adaptation and natural selection became the cornerstones of modern ecological theory.

1. Give the translation for the following words and expressions, write them into your vocabularies:

environment –

interactions –

diversity –

species –

applied science –

life-supporting functions –

soil –

natural selection –

cornerstone –

erosion –

2. In the list of given words find those used in Present Simple.

Have isolated, sends, managed, become, didn't give, will affect, don't respect, isn't, has treated, has, had defined, uses, was destroying, doesn't help, will be making, are, have been interacting, am.

3. Make the sentences negative.

1. Students of our group understand the meaning of the word "habitat".
2. We are future ecologists.
3. Our department is doing well.
4. Ecology gives understanding of nature's structure.
5. Our actions affect our shared recourses.

4. Make up questions:

1. Does what mean ecology?
2. Ecologists do study what ?
3. Ecology of organisms the study and their relationship with their surroundings is?
4. Ecology does give of nature's structure and function an understanding changes over time?

III VOCABULARY PRACTICE

1. Use the verbs in brackets in Present Simple.

1. Ecologists (to use) knowledge from many disciplines.
2. The multidisciplinary approach (to aid) ecologists in solving the environmental problems.
3. All progress (to depend) on the unreasonable man.
4. Life (to exist) primarily at the intersection of land (lithosphere), air (atmosphere), and water (hydrosphere).
5. Stability (not to mean) that all of the parts of an ecosystem operate in perfect harmony.
6. Many ecologists (to believe) that we humans break the rules at our peril.
7. Ecology (to give) an understanding of nature's structure and function changes over time.
8. The environment of an organism (to include) both the physical properties.
9. Ecology (to be) a multi-disciplinary science.
10. Ecology (to draw) heavily on many other branches of science.

11. As a scientific discipline, ecology (not/ to dictate) what is “right” or “wrong”.
12. Note that these different systems (to unrelate) and often applied at the same time.
13. What the term ecology (to mean)?
14. This remarkable ecological system (not/to be) dependent on sunlight.

2. Retell the text.

3. Do the grammar test, paying special attention to the present simple usages:

1. I (to like) _____ lemonade very much.
2. The girls always (to listen) _____ to pop music.
3. Janet never (to wear) _____ jeans.
4. Mr Smith (to teach) _____ Spanish and French.
5. You (to do) _____ your homework after school.

IV LANGUAGE PRACTICE

Simple present with “have” and “be”

Fill in the correct form of the verbs:

1. We (to have) _____ a nice garden.
2. She (to be) _____ six years old.
3. Simon (to have) _____ two rabbits and five goldfish.
4. I (to be) _____ from Vienna, Austria.
5. They (to be) _____ Sandy's parents.

Negative Sentences

Make negative sentences:

1. My father makes breakfast. → _____
2. They are eleven. → _____
3. She writes a letter. → _____
4. I speak Italian. → _____
5. Danny phones his father on Sundays. → _____

Questions

Make questions:

1. you / to speak / English → _____
2. when / he / to go / home → _____
3. they / to clean / the bathroom → _____
4. where / she / to ride / her bike → _____
5. Billy / to work / in the supermarket → _____

Signal Words

Find the signal words for simple present:

1. Which **is** a signal word for simple present?
 now last Monday often
2. Which **is** a signal word for simple present?
 sometimes at the moment yesterday
3. Which **is** a signal word for simple present?
 last Friday every Friday next Friday
4. Which **is not** a signal word for simple present?
 never already usually
5. Which **is not** a signal word for simple present?
 Listen! first ... then ... seldom

UNIT 2

I LEAD-IN

- a) What does the term *ecology* mean?
- b) Why is ecology a broad discipline?
- c) What do physiological ecology (or ecophysiology) and behavioral ecology examine?

II READING

Ecology is a broad biological science and can be divided into many sub-disciplines using various criteria. Many of these fields overlap, complement and inform each other, and few of these disciplines exist in isolation. For example, the population ecology of an organism is a consequence of its behavioral ecology and intimately tied to its community ecology. Methods from molecular ecology might inform the study of the population, and all kinds of data are modeled and analyzed using quantitative ecology techniques.

When discussing the study of a single species, a distinction is usually made between its *biology* and its *ecology*. For example, “polar bear biology” might include the study of the polar bear's physiology, morphology, pathology and ontogeny, whereas "polar bear ecology" would include a study of its prey species, its population and metapopulation status, distribution, dependence on environmental conditions, etc. In that sense, there can be as many subdisciplines of ecology as there are species to study.

Physiological ecology (or ecophysiology) and behavioral ecology examine adaptations of the individual to its environment.

Population ecology (or autecology) studies the dynamics of populations of a single species.

Community ecology (or synecology) focuses on the interactions between species within an ecological community.

Ecosystem ecology studies the flows of energy and matter through the biotic and abiotic components of ecosystems.

Landscape ecology examines processes and relationship across multiple ecosystems or very large geographic areas.

Ecology can also be sub-divided according to the species of interest into fields such as animal ecology, plant ecology, insect ecology, and so on.

Another frequent method of subdivision is by biome studied, e.g., Arctic ecology (or polar ecology), tropical ecology, desert ecology, etc. The primary technique used for investigation is often used to subdivide the discipline into groups such as chemical ecology, genetic ecology, field ecology, statistical ecology, theoretical ecology, and so forth. Note that these different systems are unrelated and often applied at the same time; one could be a theoretical plant community ecologist, or a polar ecologist interested in animal genetics.

1. Give the translation for the following words and expressions, write them into your vocabularies:

behavioral ecology –

examine –

community –

multiple –

technique –

primary –

comprised –

broad –

complexity –

number of entities –

2. Answer the questions:

1. What does population ecology (or autecology) study?
2. What does community ecology (or synecology) study?
3. What does landscape ecology examine?
4. What sub-disciplines comprise ecology?

3. Make up the sentences:

1. Discipline is a broad discipline ecology
2. Ecology examines of the individual to its environment behavioral adaptations
3. Ecology processes and relationship across multiple examines ecosystems landscape
4. Ecology the dynamics of populations of a single population studies species

III VOCABULARY PRACTICE

1. Retell the text

2. Do the test, paying attention to the vocabulary:

1. The study of living things, their environment, and the relation between the two is
 - A. genetics
 - B. ecology
 - C. environment
 - D. ecophysiology

2. The relationship between the environment and a species is
 - A. community ecology
 - B. physiological ecology
 - C. environmental ecology
 - D. landscape ecology

3. is surrounding where living beings inhabit.
 - A. harvesting
 - B. environment
 - C. cultivation
 - D. pastures

4. Ecology is usually considered a branch of
 - A. Biology
 - B. Agronomy
 - C. Genetics
 - D. Biochemistry

5. A scientist who studies living things is
 - A. Ecologist
 - B. Chemists
 - C. Agronomist
 - D. Botanist

6. is expressed at the ecological level (ecosystem), population level (intraspecific diversity), species level (specific diversity), and genetic level.
 - A. Biodiversity
 - B. Environment
 - C. Diversification

D. The primary technique

7. studies the flows of energy and matter through the biotic and abiotic components of ecosystems.

A. Ecophysiology

B. Ecosystem ecology

C. Landscape ecology

D. Physiological ecology

8. is the portion of the earth and its atmosphere in which living organisms exist or that is capable of supporting life.

A. Hydrosphere

B. Biosphere

C. Atmosphere

D. Lithosphere

9. Plants and photosynthetic microorganisms convert light into chemical energy by the process of, which creates glucose (a simple sugar) and releases free oxygen.

A. food-making

B. supporting life

C. photosynthesis

D. hydrosphere

IV LANGUAGE PRACTICE

1. Complete the sentences using a few, few, a little, little:

1. Let's go to the movies. I have _____ money.

2. I'm sorry, I can't pay for your lunch. I have _____ money.

3. Not many children like vegetables. For example, _____ children eat squash.

4. Joe is always angry. That's why he has _____ friends.

5. Bill didn't drink all the soda. There's _____ left.

6. The party was fun. There were _____ people I knew there.

7. Your house is almost empty! You have _____ furniture.

8. Marty : Do you need some help with your math homework?

Harry : Yes, I could sure use _____

9. Henry: How many people were at the game last night?
Kenny: Almost none. _____ people want to watch a team that always loses.
10. Doris: Are Dallas and Ft. Worth very far from each other?
David: No, they're quite close. There's _____ distance between them.
11. There's _____ milk in the refrigerator. About half a quart, I think.
12. Doctor: Have you ever been in bad health or had a serious operation?
Patient: No, I haven't. I've had _____ medical problems.
13. Steve: Have you received any applications for the job that you advertised in the paper last week?
Larry: Yes, but only _____
14. Steve: I wonder why not many people applied for it? Larry : _____ want to work so hard for so _____ money, I guess.
15. May I please have _____ more coffee?
16. Greg is always busy; he has _____ free time.
17. _____ of the children were rude, but most were polite.
18. Donald doesn't care for school. He has _____ interest in it.
19. I need to talk to you. Do you have _____ minutes?
20. Let's get together when we have _____ free time.
21. Rodney feels that his life is very dull. He has _____ adventures.
22. There are no empty seats on this flight, but there are _____ available on the next one.
23. Almost all of the people at the meeting were in civilian clothes. _____ were wearing uniforms.

2. Complete the sentences with some/any/no:

1. There is _____ tea in the crystal glass, but it is very hot.
2. There is _____ fresh milk in the fridge. I can't make porridge.
3. Are there _____ tasty apples in the bag?
4. There isn't _____ jam on the round plate.
5. There are _____ bananas on the wooden table. They are yellow.
6. There is _____ butter on the plate.
7. There is _____ cheese on the table, but there're _____ cheese sandwiches.
8. There isn't _____ sausage on the table.
9. There are _____ potatoes in the bag.
10. There aren't _____ bananas on the table, but there are _____ cucumbers there.

3. Do the test.

Fill in the blanks using “little” or “few”:

1. There is _____ money in the wallet.
2. I've got a _____ books.
3. My mum has got a _____ cigarettes in the packet.
4. I can't wait for you. I've got _____ time.
5. Fred has got a _____ English books.
6. Brenda has got a _____ friends.
7. There is _____ butter left. We need to buy some.
8. There are _____ people at the cinema as the film is not very good.
9. I have got _____ magazines. I prefer books.
10. There is a _____ pizza in the fridge if you are hungry.

Fill in the blanks using “much” or “many”:

1. How _____ books did you buy?
2. How _____ money do you have
3. How _____ did the car cost?
4. How _____ apples are there in the basket?
5. How _____ times have you been to the dentist?
6. How _____ butter do you need?
7. How _____ oranges do you want?
8. How _____ wine does he drink?
9. How _____ girls are there in your class?
10. How _____ stamps have you got in your collection?

Fill in the blanks using “a/an”, “some”, “any”, “much” or “many”:

1. I ate _____ sandwich for lunch.
2. We had _____ cake with the tea.
3. I often have _____ fried egg for dinner.
4. There aren't _____ pears left. Only two.
5. Would you like _____ tea?
6. Don't eat so _____ chocolate or you'll get fat.
7. I don't drink _____ beer. I don't like it.
8. There is _____ tub of margarine in the fridge.
9. The child put _____ sand into the bucket.
10. I can lend you _____ money if you need it.

UNIT 3

I LEAD-IN

- a) What is air pollution?
- b) What is land pollution?
- c) What is light pollution?

II READING

There are actually SEVEN different kinds of environmental pollution. Most people can name air, water and land...do you know the other four? Or examples of what constitutes actual pollution in each category?

Listed below are each kind and examples to help you understand just how we can affect the environment and each other.

Air Pollution



According to the dictionary, air pollution is the contamination of air by smoke and harmful gases, mainly oxides of carbon, sulfur, and nitrogen. (And maybe by that smelly uncle.) Some examples of air pollution include:

- Exhaust fumes from vehicles
- The burning of fossil fuels, such as coal, oil, or gas
- Harmful off-gassing from things such as paint, plastic production, and so on
- Radiation spills or nuclear accidents

Air pollution is linked to asthma, allergies and other respiratory illnesses. You can more about how the environment affects *human health* here.

Land Pollution



Land pollution is the degradation of the Earth's surface caused by a misuse of resources and improper disposal of waste. Some examples of land pollution include:

- Litter found on the side of the road
- Illegal dumping in natural habitats
- Oil spills that happen inland
- The use of pesticides and other farming chemicals
- Damage and debris caused from unsustainable mining and logging practices
- Radiation spills or nuclear accidents

Land pollution is responsible for damage done to natural habitat of animals, deforestation and damage done to natural resources, and the general ugly-ing up of our communities.

Light Pollution



Light pollution is the brightening of the night sky inhibiting the visibility of stars and planets by the use of improper lighting of communities. Some examples of what causes light pollution:

- Street lamps that shine light in all directions, instead of with a hood to point light downward toward the street.
- Extra, unnecessary lights around the home
- Cities that run lights all night long

Light pollution uses more energy (by shining more light up instead of down, meaning you need brighter bulbs for the same amount of light), may affect human health and our sleep cycles, and most importantly, corrupts our kids telescopes and their curiosity. (I grew up in a city. My first no-light night in the country blew my mind. Let's not make that such a rare occasion!)

Noise Pollution



Noise pollution is any loud sounds that are either harmful or annoying to humans and animals. Some examples of noise pollution:

- Airplanes, helicopters, and motor vehicles
- Construction or demolition noise
- Human activities such as sporting events or concerts

Noise pollution can be disruptive to humans' stress levels, may be harmful to unborn babies, and drives animals away by causing nervousness and decreasing their ability to hear prey or predators.

Thermal Pollution



Thermal pollution is the increase of temperature caused by human activity.

A few examples of this include:

- Warmer lake water from nearby manufacturing (using cool water to cool the plant and then pump it back into the lake)
- Included in thermal pollution should also be the increase in temperatures in areas with lots of concrete or vehicles, generally in cities

These kinds of environmental pollution can cause aquatic life to suffer or die due to the increased temperature, can cause discomfort to communities dealing with higher temperatures, and will affect plant-life in and around the area.

Visual Pollution

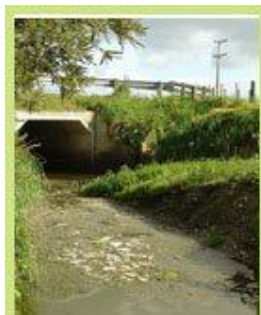


Visual pollution is what you would call anything unattractive or visually damaging to the nearby landscape. This tends to be a highly subjective topic. Some examples of visual pollution:

- Skyscrapers that block a natural view
- Graffiti or carving on trees, rocks, or other natural landscapes
- Billboards, litter, abandoned homes, and junkyards could also be considered among three kinds of environmental pollution

Mostly, visual kinds of environmental pollution are annoying and ugly, although some may say they are also depressing, and they of course affect the surrounding landscape with the changes they cause.

Water Pollution



Water pollution is the contamination of any body of water (lakes, groundwater, oceans, etc). Some examples of water pollution:

- Raw sewage running into lake or streams
- Industrial waste spills contaminating groundwater
- Radiation spills or nuclear accidents
- Illegal dumping of substances or items within bodies of water
- Biological contamination, such as bacteria growth
- Farm runoff into nearby bodies of water

These kinds of environmental pollution are linked to health issues in humans, animals and plant-life.

1. Give the translation for the following words and expressions, write them into your vocabularies:

- pollution –
- skyscraper –
- litter –
- waste –
- contamination –
- dumping –
- illegal –
- suffer –
- affect –

2. Answer the questions:

- What is thermal pollution?
- What is noise pollution?
- What is visual pollution?
- What is water pollution?

3. Choose the adjectives that to your mind describe a good ecologist.

Competent, objective, confident, attractive, responsible, kind, witty, communicative, patient, charismatic, sympathetic, experienced, aggressive, creative, energetic, honest, qualified, diplomatic, disciplined, well-bred, generous, systematic, realistic, clever.

III VOCABULARY PRACTICE

1. Retell the text.

2. Write down the correct form of the word in brackets (adjective or adverb):

- Tom is (slow) _____. He works _____.

2. Sue is a (careful) _____ girl. She climbed up the ladder _____.
3. The dog is (angry) _____. It barks _____.
4. He acted (excellent) _____. He's an _____ actor.
5. They learn English (easy) _____. They think English is an _____ language.
6. Max is a (good) _____ singer. He sings _____.
7. It's (awful) _____ cold today. The cold wind is _____.
8. Dogs rely on their noses as they can smell (extreme / good) _____. If that is true, why does dog food smell so (terrible) _____?
9. The little boy looked (sad) _____. I went over to comfort him and he looked at me _____.
10. I tasted the soup (careful) _____ but it tasted (wonderful) _____.

3. Compare these adjectives:

1. boring
2. great
3. frightening
4. sad
5. disgusting
6. new
7. embarrassing
8. fine

IV LANGUAGE PRACTICE

1 Fill in the gaps with the suitable form of the adjective or adverb:

- 1) (young) We went swimming, but the _____ had to stay indoors.
- 2) (beautiful) The girls are _____ now than ever.
- 3) (small) Our house is _____ than your house.
- 4) (green) The grass is always _____ on the other side of the fence.
- 5) (old) My _____ brother lives in England.
- 6) (interesting) The book I read last week was _____ than this one.
- 7) (expensive) He wanted to buy a _____ car, but he couldn't afford it.
- 8) (fashionable) I want to buy an apartment in a _____ area.

2 Fill in the gaps with the suitable form of the adjective or adverb:

- 1) Jill's a far _____ (intelligent) person than my brother.
- 2) Kate was the _____ (practical) of the family.

- 3) Greg felt _____ (bad) yesterday than the day before.
- 4) This wine is the _____ (good) I've ever tasted.
- 5) Jack was the _____ (tall) of the two.
- 6) Jack is the _____ (clever) of the three brothers.
- 7) If you need any _____ (far) information, please contact our head office.
- 8) The sinking of Titanic is one of _____ (famous) shipwreck stories of all time.
- 9) Please, send the books back without _____ (far) delay.
- 10) The deposits of oil in Russia are by far the _____ (rich) in the world.
- 11) Could you come a bit _____ (early) tomorrow?
- 12) I like this song _____ (well) than the previous one.
- 13) Which of these two performances did you enjoy _____ (much)?
- 14) The fire was put out _____ (quickly) than we expected.

3 Fill in the gaps with *more* or *less*:

- 1) People are _____ intelligent than monkeys.
- 2) Summer holidays are _____ splendid than winter holidays.
- 3) Maths is _____ important than English.
- 4) Books are _____ interesting than films.
- 5) Writing in English is _____ difficult than speaking.
- 6) Parents are _____ helpful than teachers.
- 7) Reading is _____ useful than watching TV.
- 8) Food is _____ expensive than clothes.

4 Do the test:

1

Our house is ... than that house.

- A big
- B the biggest
- C bigger
- D biggest
- E a big

2

... expensive the hotel, ... the service.

- A The more/the better

B The most/the best

C More/best

D More/the better

E The more/the best

3

It's ... today than yesterday. It isn't ... cold today ... it was yesterday.

A warmer/as/than

B warm/as/as

C warmer/as/as

D warmest/as/as

E the warmer/as/as

4

You are driving too Can you drive ... ?

A fast/a bit slowest

B fastly/a bit slower

C fastly/a bit slowest

D fast/a bit slower

E fastly/a bit more slowly

5

Why do you always come to see me at ... moment?

A the worst possible

B the worse possible

C the better possibly

D the best possibly

E worst possible

6

— Who is ... boy in your class?

— Peter is. But I am ... than he is.

- A a cleverer/cleverer
- B a clever/cleverest
- C the cleverest/cleverer
- D cleverest/more clever
- E cleverest/most clever

7

The film is much ... interesting than the one we saw last week. No doubt it is ... film I've seen this year.

- A -/the better
- B less/a good
- C most/the best
- D more/the best
- E least/most worst

8

— We don't have much time.

— I'm hurrying ... I can.

- A faster than
- B the fastest
- C as fast as
- D more fast than
- E so fast as

9

Most towns in England are not ... than four hours apart by train and many are much

- A more/few
- B more/fewer
- C the most/fewer
- D many/fewer
- E most/fewer

10

Texas alone is ... than France and Alaska is twice as ... as Texas.

- A larger/big
- B large/bigger
- C large/big
- D largest/biggest
- E the largest/bigger

11

Wall street is a narrow street with big houses, but it is well-known all over the world as ... street in the USA.

- A busiest
- B the busiest
- C a busy
- D the most busy
- E busier

12

Elephants are ... bigger than camels.

- A little
- B a little
- C less
- D the least
- E least

13

— I'm ... sorry for having kept you so long.

— That's all right. I know you always take ... decisions.

- A awful/wise
- B awful/wisest
- C awfully/wise

D awful/wiser

E awfully/more wise

14

He was in a hurry. So he finished his work as ... as possible.

A quick

B quickly

C quicker

D quickest

E the quickest

15

The blue dress is much ... than the green one. I think I'll buy it.

A good

B best

C the best

D the better

E better

16

Dinner is ... meal of the day in England.

A substantial

B most substantial

C the most substantial

D more substantial

E less substantial

17

The winter in Madrid is ... than the winter in Paris or Milan.

A the warmest

B warm

C warmer

D —

E warmest

18

The time in my daily life when I feel ... pressure is when I'm on the air.

A the little

B the least

C less

D least

E much least

19

Many people would say that my job must be ... component of my life.

A less stressful

B stressful

C the most stressful

D much more stressful

E more stressful

20

Jane's a good bit taller than her brother.

A Jane's not as tall as her brother.

B Jane's brother is much shorter.

C Jane's is as tall as her brother.

D Jane's brother is the tallest.

E Jane's shorter than her brother

UNIT 4

I LEAD-IN

- a) How can the outer layer of the planet Earth be divided ?
- b) Do you know where did the first life developed ?
- c) What does the biosphere contain?

II READING

HISTORY OF ECOLOGY

For modern ecologists, ecology can be studied at several levels: population level (individuals of the same species), biocoenosis level (or community of species), ecosystem level, and biosphere level.

The outer layer of the planet Earth can be divided into several compartments: the hydrosphere (or sphere of water), the lithosphere (or sphere of soils and rocks), and the atmosphere (or sphere of the air). The biosphere (or sphere of life), sometimes described as “the fourth envelope”, is all living matter on the planet or that portion of the planet occupied by life.

It is thought that life first developed in the hydrosphere, at shallow depths, in the photic zone. (Although recently a competing theory has emerged, that life originated around hydrothermal vents in the deeper ocean.) Multicellular organisms then appeared and colonized benthic zones. Photosynthetic organisms gradually produced the chemically unstable oxygen-rich atmosphere that characterizes our planet. Terrestrial life developed later, after the ozone layer protecting living beings from UV rays formed. Biodiversity is expressed at the ecological level (ecosystem), population level (intraspecific diversity), species level (specific diversity), and genetic level.

The biosphere contains great quantities of elements such as carbon, nitrogen and oxygen. Other elements, such as phosphorus, calcium, and potassium, are also essential to life, yet are present in smaller amounts. At the ecosystem and biosphere levels, there is a continual recycling of all these elements, which alternate between the mineral and organic states.

Water is also exchanged between the hydrosphere, lithosphere, atmosphere and biosphere in regular cycles. The oceans are large tanks, which store water,

ensure thermal and climatic stability, as well as the transport of chemical elements thanks to large oceanic currents.

For a better understanding of how the biosphere works, and various dysfunctions related to human activity, American scientists simulated the biosphere in a small-scale model, called Biosphere II.

1. Give the translation for the following words and expressions, write them into your vocabularies:

layer –

compartment –

extend –

shallow –

depth –

photic zone –

benthic zones –

unstable –

terrestrial life –

UV rays –

ensure –

tanks –

simulate –

alternate –

outer –

2. Refute statements or agree with them.

Model 1: Ecology can be studied at one level. Do you agree with me?

No, that is wrong. Ecology can be studied at several levels.

Model 2: Life first developed in the hydrosphere. Do you agree with me?

Yes, you are (quite) right. Life first developed in the hydrosphere.

1. The outer layer of the planet Earth can be divided into several compartments.

2. Photosynthetic organisms gradually produced the chemically unstable carbon-rich atmosphere that characterizes our planet.

3. The biosphere contains great quantities of elements such as carbon, nitrogen and oxygen.

4. Other elements, such as phosphorus, calcium, and potassium, are also essential to life, yet are present in larger amounts.

3. Give definitions of the following words: *biodiversity, community, biosphere, species, ecosystem*

1. The portion of the earth and its atmosphere in which living organisms exist or that is capable of supporting life.
2. The combined differences of living things, generally classified in four broad categories.
3. A group of different populations.
4. An ecological community of various plants, animals, and other organisms, interacting with each other and with the nonliving resources in their environment, all functioning as a unit.
5. A group of similar and related organisms.

III VOCABULARY PRACTICE

1. Match the following English words with their Ukrainian equivalents:

- | | |
|-----------------|-----------------|
| 1) layer | a) вид |
| 2) species | b) земний |
| 3) extend | c) угруповання |
| | d) біологічна |
| 4) terrestrial | різноманітність |
| 5) biodiversity | e) існувати |
| 6) community | f) популяція |
| 7) exist | g) простягатися |
| 8) population | h) шар |
| 9) store | i) потік |
| 10) current | k) накопичувати |

2. Translate word combinations into Ukrainian.

1. the outer layer
2. several compartments
3. living matter
4. ensure thermal and climatic stability
5. the chemically unstable oxygen-rich atmosphere
6. terrestrial life
7. great quantities of elements
8. various dysfunctions related to human activity
9. multicellular organisms
10. smaller amounts

3. Complete the following sentences:

1. Ecology can be studied at
2. The outer layer of the planet Earth can be divided into
3. It is thought that life first developed in
4. Terrestrial life developed
5. The biosphere contains great quantities of
6. American scientists simulated

4. Choose word combinations with the noun + noun attributive phrase.

Translate the sentences into Ukrainian.

1. Ecology is a broad discipline comprised of many sub-disciplines.
2. Landscape ecology examines processes and relationship across multiple ecosystems or very large geographic areas.
3. Ecology can also be sub-divided according to the species of interest into fields such as animal ecology, plant ecology, insect ecology, and so on.
4. The primary technique used for investigation is often used to subdivide the discipline into groups such as chemical ecology, genetic ecology, field ecology, statistical ecology, theoretical ecology, and so forth.
5. Multicellular organisms then appeared and colonized benthic zones. 6. Terrestrial life developed later, after the ozone layer protecting living beings from UV rays formed.

5. Give the forms of Past Indefinite of the given verbs.

To be, to keep, to reflect, to go out, to effect, to make, to have, to influence, to pollute, to catch, to cause, to protect, to use

6. Complete the following sentences using the given verbs .

killed, simulated, used, warned, invented, took, thought, were

1. American scientists ... the biosphere in a small-scale model, called Biosphere
2. Yesterday the television weather forecast ... everybody of "poor air quality".
3. The government of Germany very decisive and serious steps punishing those responsible for the pollution.
4. For many centuries the people who lived on our planet before us ... that resources of the Earth ... endless.
5. They ... those resources without thinking about the generations that would come after them.
6. Our ancestors ... animals .
7. They ... machines and instruments that polluted the water, the air and the soil.

IV LANGUAGE PRACTICE

1. Put the verbs into the simple past:

1. Last year I (go) _____ to England on holiday.
2. It (be) _____ fantastic.
3. I (visit) _____ lots of interesting places. I (be) _____ with two friends of mine .
4. In the mornings we (walk) _____ in the streets of London.
5. In the evenings we (go) _____ to pubs.
6. The weather (be) _____ strangely fine.
7. It (not / rain) _____ a lot.
8. But we (see) _____ some beautiful rainbows.
9. Where (spend / you) _____ your last holiday?

2. Write the past forms of the irregular verbs:

1. go → _____
2. come → _____
3. buy → _____
4. have → _____
5. do → _____

3. Complete the table in simple past:

positive	negative	question
Jane was tired.		
	Sean did not work.	
		Did I have a cat?
	Mary did not sing.	
		Did she see us?

Put the sentences into simple pas:

1. We open the door.
2. You write poems.
3. Richard plays in the garden.
4. Kerry does not speak English.
5. Do you see the bird?

4. Write sentences in simple past.

1. you / cards / play
2. I / a car / want

3. we / the game / lose
4. not / I / early / get up
5. not / Jeff and Linda / home / cycle

„Was“ or „Were“?

1. I _____ hungry.
2. You _____ in Australia last year.
3. She _____ not there.
4. Charly Chaplin _____ a famous actor.
5. Lisa and James _____ at home.

Ask for the bold part of the sentence.

1. Billy ate an **apple**.
2. The children played **in the garden**.
3. Laura came home **at six o'clock**.
4. **The boy** read a book.
5. The girl wrote **five** letters.

5. Complete the sentences:

1. On Saturday I _____ (play) computer games with my cousins.
2. My mum _____ (not cook) dinner last night.
3. I _____ (walk) to school because there weren't any buses.
4. They _____ (not dance) at the party.
5. My brother _____ (travel) to Ireland last summer

6. Write the past simple of these verbs:

1. copy _____
2. revise _____
3. cycle _____
4. listen _____
5. practice _____
6. play _____
7. like _____
8. move _____
9. shout _____
10. start _____

7. Write the questions in the correct order:

night? / meet / Did / you / them / last /

Did you meet them last night?

1. film? / like / you / Did / the /

2. you / many / did / ask? / How / people /

3. a / have / time? / they / Did / good /

4. did / weekend? / the / What / do / we / at /

5. she / DVD? / Where / that / did / buy /

6. party / on / your / go / Saturday? / he / Did / to /

7. did / yesterday? / Who / you / see /

8. Correct the sentences:

Who do you met on Saturday morning?

Who did you meet on Saturday morning?

1. Did he went to school yesterday?

2. Why did you to go home early?

3. Where you did learn English?

4. Did she works today?

5. What do you this yesterday?

6. Did they last night phone you?

9. Regular (R) or irregular (I) verbs?

1. fly _____

2. use _____

3. study _____

4. eat _____

5. make _____

6. travel _____

7. see _____

10. Complete the sentences with the past simple.

be – got up – meet – have – go – run – drink – sleep – swim – eat

Yesterday I got up early, at about seven o'clock.

1. I _____ a shower and some fruit for breakfast.
2. Then I _____ to the sports centre.
3. I _____ 500 meters in the swimming pool and then
4. I _____ 5 kilometers.
5. At lunchtime I _____ my friends in a café.
6. We _____ some pasta and _____ some juice.
7. After lunch I _____ for a few hours, I _____ tired!

11. Complete with past simple (regular verbs):

1. I opened the door and _____ (look) inside.
2. Who _____ (close) all the windows?
3. I _____ (carry) my mom's shopping bag.
4. I _____ (not climb) over the fence.
5. I _____ (rip) my shirt.
6. The plane _____ (land) ten minutes ago.
7. We _____ (live) in that house when I was a baby.
8. My brother _____ (not cry) when he fell off his bike.
9. We _____ (walk) to school yesterday.
10. She _____ (smile) when she saw me.
11. We _____ (hurry) to the station to catch the train.
12. She _____ (laugh) when I told her the joke.
13. We _____ (race) each other on our bikes.
14. Dad _____ (not help) me with my homework.
15. Helen _____ (whisper) me a secret.
16. Luis Miguel _____ (hurry) to catch a bus.
17. We _____ (return) our books to the library.
18. She _____ (not kiss) the frog.
19. The frog _____ (change) into a prince.
20. Two doctors _____ (rush) into the room.
21. I _____ (not kick) the ball very hard.
22. Who _____ (invent) the computer?
23. Dinosaurs _____ (live) many years ago.
24. It _____ (not snow) last night.
25. They _____ (not work) until twelve last night.

12. Past simple (irregular verbs):

1. I _____ (loose) my watch in the park.
2. David _____ (not hurt) his knee.
3. I kicked the ball and it _____ (break) a window.
4. My new shoes _____ (not cost) a lot of money.
5. I _____ (get) this book from the library.
6. We had a garage where we _____ (keep) our car.
7. Ali _____ (cut) his knee.
8. The glass _____ (fall) off the table.
9. The glass _____ (not break).
10. We _____ (sell) our old car.
11. We _____ (buy) a new car.
12. The bell _____ (not ring).
13. We all _____ (go) into school.
14. The dog _____ (catch) the ball.
15. The man _____ (not kneel) down.
16. Our cat _____ (run) onto the road.
17. Jane _____ (not write) a letter.
18. I _____ (buy) a new camera last week.
19. We _____ (drive) to a safari park yesterday.
20. Yesterday Dad _____ (not take) me to the carnival.
21. Elizabeth _____ (give) Eva a chocolate.
22. Jack and Jill _____ (not go) up the hill.
23. Her ring _____ (cost) ten Euros.
24. I _____ (put) sugar in my coffee.
25. He _____ (not hit) the ball over the net.

UNIT 5



I LEAD-IN

- 1) Do you know when did most of today's environmental careers appeared?
- 2) How many environmental-protection careers exist nowadays?
- 3) What happened to create new jobs in environmental protection?

II READING

Careers in Environmental Protection

Careers in environmental protection involve jobs that help reduce the negative environmental impacts of today's actions, restore damaged ecosystems to health, or build sustainable ways of life for the future. Fifty years ago, most of today's environmental careers did not exist. Today, the field of environmental jobs is one of the fastest-growing job markets; there are more than one hundred environmental-protection careers to consider—ranging from environmental law, politics, journalism, and education, to highly technical and scientific jobs in such fields as environmental engineering, biology, chemistry, and architecture.

What happened to create so many new jobs in environmental protection? During the past half century, our society began to adopt a new set of environmental values. As a result of the environmental movement, environmental advocates and legislators worked together to create a large infrastructure of environmental laws and regulations to protect the environment and human health. New regulations called for policymakers, citizen monitors, attorneys, managers, and conservationists to make and enforce new policies. Scientists, engineers, and other specialists were enlisted to study problems and develop and implement solutions to problems such as oil spills, air pollution, landfills, and contaminated ground water.

As new technological advances were developed to combat ongoing crises, new environmental occupations emerged. Today, many people can find careers in environmental protection that match their personal skills and dreams. For example, someone interested in working outdoors might choose to become a conservation biologist, park ranger, wildlife manager, or forester. A person who enjoys working with the public might explore working as an outreach specialist in environmental education, public relations, environmental journalism, or nature interpretation—or in some other communications specialty.

Some of today's best careers are in environmental sciences, environmental law, environmental business, conservation, environmental engineering, environmental communications, environmental lobbying, and the social sciences.

Give the translation for the following words and expressions, write them into your vocabularies:

negative environmental impacts –
damaged ecosystems –
to restore ecosystems –
environmental values -
oil spills –
landfills –
contaminated –
ground water –
conservation biologist –
wildlife manager –
environmental journalism –

Answer the questions:

- 1) What kind of job in environment protection may someone interested in working outdoors choose?
- 2) What career path is the best choice for a person who enjoys working with the public?
- 3) What are the other modern careers in environmental protection?
- 4) Is the field of environmental jobs one of the fastest-growing job markets nowadays?

Make up the sentences:

- 1) That, many people, Today, can, in environmental protection, match. find

- careers, their personal skills and dreams.
- 2) environmental protection, new jobs, What happened, so many, in, to create?
 - 3) most of, Fifty years ago, environmental careers, exist, today's, did not.
 - 4) technological advances, to combat, new, environmental occupations, emerged, As, new, ongoing crises, were developed.
 - 5) the past half century, During, our society, to adopt, environmental values. began, a new set of.

III VOCABULARY PRACTICE

1. Read the second part of the text about careers in environmental protection:

Environmental Career Opportunities

Environmental protection occupations fall into five categories:

1. Environmental research
2. Environmental outreach: education, communications, and advocacy
3. Natural resource management
4. Environmental engineering and sciences
5. Environmental policy and legislation and regulation

Thus, environmental research and teaching is conducted by scientists and science technicians who study all aspects of the environment. Jobs include: ecologists, biologists, zoologists, biochemists, aquatic biologists, marine biologists, botany, microbiologists, physiologists, air specialists.

Environmental engineers specialize in either preventing or cleaning up pollution or environmental emergencies. Engineers who work to prevent pollution look for and help defend against potential sources of damage to the environment. Engineers who specialize in cleaning up accidents decide how to clean up environmental problems quickly and efficiently. Engineers are called upon to resolve complex problems such as oil spills, hazardous waste, and polluted lakes and wetlands. Jobs include: geographic information systems analysts, chemical engineers, civil engineers, water and air quality engineers, solid and hazardous waste engineers, marine biologists, pollution control technicians, wastewater treatment plant operators.

Water-quality managers include chemical, civil, environmental, and mechanical engineers, hydrologists, toxicologists, planners, and other professionals who reduce pollutants in lakes, streams, rivers, and wetlands.

2. Answer the questions:

- 1) How many categories are there within the environmental protection occupations?
- 2) What jobs are included in the environmental research and teaching category?
- 3) What are the specific of the job of the environmental engineer?
- 4) What is the main task of the water-quality manager?
- 5) Are there are any jobs which fall in different categories?

3. Work in pairs. Discuss what kind of career would you like to have after graduating from the university.

4. Make short annotation of the following text. Retell the three parts of the text.

The Future for Environmental Careers

The field of environmental protection is still new, so it is difficult to predict which environmental careers will have the greatest prospects in the future. New environmental regulations, new technologies, and new environmental crises may influence which jobs are in greatest demand. Universities are attempting to help students prepare for jobs in environmental protection by offering degrees in many areas of environmental studies.

IV LANGUAGE PRACTICE

1. Match the two halves of the sentences:

1) Although I was tired	a) he swims every day
2) I walked home	b) despite the low salary
3) Although we went to university together	c) in spite of the rain
4) I like my job	d) I couldn't sleep
5) we weren't close friends	e) despite his age

2. Choose the correct adjective in each sentence.

- 1) You look really (tired/tiring). Why don't you go to bed?
 - a) tired
 - b) tiring
- 2) Sit down - I've got some very (excited/exciting) news for you.
 - a) excited
 - b) exciting

- 3) He's got a very (annoyed/annoying) habit of always interrupting people.
 a) annoyed
 b) annoying
- 4) I'm very (disappointed/disappointing) by your behaviour.
 a) disappointed
 b) disappointing
- 5) Kids! You're (disgusted/disgusting)! Don't talk with your mouths full!
 a) disgusted
 b) disgusting

3. Write the correct answer in each gap.

- 1) There's very (*little/a little*) petrol in the car. I'll buy some when I go out.
 2) We need (*a/some*) new furniture for the living room.
 3) Can you put (*a/some*) paper in the printer, please?
 4) Do you mind if I ask you (*few/a few*) questions?
 5) We've been having (*a/some*) terrible weather recently.

4. Match the words with their definitions

1) Animal Ecology	a) It is the interpretation of animal behaviour under natural conditions
2) Applied Ecology	b) It is the study of freshwater bodies like ponds, lakes and their organisms.
3) Oceanography	c) Ecology of birds
4) Avian Ecology	d) Study of marine habitat and organisms.
5) Mammalian Ecology	e) the wild life management
6) Limnology	f) It is the ecology of insects
7) Palaeo-ecology	g) Study of geographical distribution of organisms
8) Geographic Ecology or Eco-geography	h) Organisms and their environment in geological past
9) Insect Ecology	i) Ecology of mammals

UNIT 6



I LEAD-IN

- a) What do you know about global warming?
- b) What hazards does it have?
- c) Think about three most dangerous effects of global warming.

II READING

Global Warming

Climate change and especially global warming has become the overriding environmental concern since the 1990s. Most discussions about the environment end up pointing out that, despite all other indicators that may show us doing better and better, we still have to change our current lifestyle dramatically because our way of life is now changing the climate and causing global warming.

The consequence is that we must change our industrial ways. World watch Institute tells us that the only feasible alternative is a solar/hydrogen-based economy. Greenpeace equivalently tells us that although we may have lost of oil, global warming prevents us from using it –we are in a second world oil crisis. But in the 1970s the problem was a shortage of oil. This time round the problem is that we have too much. The only solution is choosing a fundamentally new energy direction based on clean renewable energy, like wind or solar power.

In this way, climate change has become the environmental trump card - possibly we are not running out of raw materials, possibly we are actually doing better and better on almost any objective indicator, but if global warming demands a change, all other arguments will be of lesser import. World watch Institute actually envisions how in the twenty-first century —the climate battle may assume the kind of strategic importance that wars - both hot and cold - have

had during the twentieth century. Backed up by a number of leading scientists writing in Nature, World watch Institute asserts that to develop the necessary technologies to combat climate change will require a monumental research effort, conducted with the urgency of the Manhattan Project or the Apollo space program.

These drastic efforts are justified by a general understanding of the severe consequences of global warming. In many people's view, climate change is linked to drastic increases in temperature and catastrophic climatic shifts. We fear that global warming could result in the destruction of our ecosystems, widespread famine, more and more powerful hurricanes, the melting of the ice caps and the oceans flooding the Maldives, Bangladesh and other low-lying areas on Earth.

1. Give the translation for the following words and expressions, write them into your vocabularies:

- overriding –
- to assert –
- concern –
- to conduct –
- feasible –
- urgency –
- equivalently –
- drastic –
- shortage –
- widespread –
- famine –
- indicator–
- hurricane –
- to envision–
- barrage –
- sugarcane –

2. Put the main ideas of the passages in the right order:

- Our fears about global warming
- A new energy direction
- Our lifestyle threatens the climate
- Third world war

3. Make true sentences:

1. Climate change and especially global warming has become the overriding environmental concern since:

- a) the 1990s.
 - b) the 1980s.
 - c) the 1960s
2. The only solution of avoiding climate change is choosing:
- a) a fundamentally new energy direction
 - b) a new life style.
 - c) new methods of oil combustion
3. To develop the necessary technologies to combat climate change will require:
- a) a monumental research effort
 - b) a new way of life
 - c) a new technologies.
4. In many people's view, climate change is linked:
- a) to drastic increases in temperature
 - b) to new technologies
 - c) to new climate

III VOCABULARY PRACTICE

1. Read the text.

What is the greenhouse effect?

The main concern of climate change is global warming and the predicted warming is based on the so called *greenhouse effect*. The fundamental principle of the greenhouse effect is really quite simple and entirely uncontroversial. Several types of gases can reflect or trap heat, including water vapor, carbon dioxide (CO₂), methane (CH₄), laughing gas (N₂O), chlorofluorocarbons (CFC) gases and ozone. Together they are known as greenhouse gases. The greenhouse gases trap some of the heat emitted by the Earth, rather like having a blanket wrapped around the globe. The basic greenhouse effect is good - if the atmosphere did not contain greenhouse gases the average temperature on the Earth would be approximately 33 °C (59 °F) colder and it is unlikely that life as we know it would be able to exist. The problem is that man has increased the quantity of greenhouse gases, CO₂ in particular, in the atmosphere. About 80 percent of the extra CO₂ comes from the combustion of oil, coal and gas whereas the other 20 percent comes from deforestation and other land changes in the tropics. About 55 percent of the released CO₂ is absorbed again by the oceans, by

northern forest regrowth, and generally by increased plant growth (plants use CO₂ as fertilizer), but the rest is added to the atmosphere, such that the concentration of CO₂ has increased by 31 percent from preindustrial times to the present day. If the extra greenhouse gases, and among them CO₂ reflect heat, more greenhouse gases in the atmosphere will (everything else being equal) lead to an increase in the temperature on Earth. This is the so called anthropogenic greenhouse effect, the extra, man-made greenhouse effect.

2. Answer the following questions:

1. What are the predictions about future warming based on?
2. What is the fundamental principle of greenhouse effect?
3. Is the basic green effect really good?
4. Why has the greenhouse effect become to affect the climate negatively?
5. Where does extra carbon dioxide come from?
6. What part of the released carbon dioxide is added to the atmosphere?
7. Explain please what does the so called anthropogenic greenhouse effect mean?

3. Make the summary of the text.

IV LANGUAGE PRACTICE

1. Complete the gaps with “like” or “as”.

- 1 My father worked _____ a miner in the 1930s.
- 2 Maria's skirt is the same _____ mine
- 3 You sound just _____ your sister when you're angry.
- 4 Although we've just met, I feel _____ I've known you all my life.
- 5 Using the sheets _____ a rope, he managed to escape.

2. Complete the sentences with an appropriate adverb.

very absolutely completely a bit really

- 1 I speak _____ good Italian but my French is terrible.
- 2 What an _____ gorgeous skirt! Where did you buy it?
- 3 You should have come to the party. It was _____ fantastic.
- 4 Sorry. I'm _____ late, aren't I?
- 5 Have you seen that film? It's _____ amazing!

3. Complete the sentences with the correct words.

- came across
- up
- fill
- backs down
- coming down with
- brought
- in

1. My grandparents _____ me
2. He's really stubborn. He never _____
3. I _____ that one in a second hand book shop.
4. I feel terrible. I think I'm _____ 'flu.
5. Give me the form and I'll _____ it for you.

4. Complete the sentences with one of the following options:

a, an, some, any, how much, how many, a lot of, not much, not many. More than one option will work in some gaps:

- 1) We've got _____ meat, but there isn't _____ fish.
- 2) _____ people have sent you _____ Christmas card?
- 3) There is _____ petrol in the car. I'll go to the petrol station and buy some.
- 4) Do we need _____ soap? And check _____ shampoo we've got, too.
- 5) I bought _____ new shoes but I didn't get _____ trousers. They were too expensive.

5. Match the words with their definitions

1) Environment	a) A community is a group of populations of different species in a given area.
2) Habitat	b) The sum of all factors affecting the organisms is termed as the environmental complex
3) Biogeochemical Cycles	c) Any feature of the organism or its parts, which is of definite

	significance in allowing that organism to exist under the conditions of its habitat, is called adaptation.
4) Population and Community	d) It represents a group of individual organisms of the same species in a given area.
5) Adaptation	e) it is a population of individuals, which although belong to the same genetic stock, but differ markedly in external characters such as size, shape and colour etc.
6) Ecad	f) The place where an organism lives, eats and reproduces is known as its habitat.

UNIT 7



THE ROLE OF FORESTS IN PREVENTING CLIMATE CHANGE

I LEAD-IN

- a) Is it possible that trees will help in fighting global climate change?
- b) Which of the scenarios presented in previous research would cause a significant global climate impact?
- c) What would roughly eliminate the carbon-storage benefits of the forests?

II READING

When it comes to fighting global warming, trees have emerged as one of the most popular weapons. With nations making little progress controlling their carbon emissions, many governments and advocates have advanced plans to plant vast numbers of trees to absorb carbon dioxide from the atmosphere in an attempt to slow climate change. But emerging research suggests that trees might not always help as much as some hope.

Scientists who champion forests say that although more research is always good, existing results are mature enough to support the use of forests to fight climate change, especially given the urgency of the problem. “We can’t necessarily afford to hold off on those things; we have to begin taking some action,” says Jason Funk, an environmental scientist in Chicago, Illinois, who served as an adviser and observer to the Paris agreement.

Researchers are now turning to sophisticated computer models and using larger and more-comprehensive data sets to nail down exactly what forests in different places do to the climate. In some cases, the results have been sobering. The researchers concluded that none of the scenarios would cause a significant global climate impact, because the effects of surface darkening and cloud-cover changes from any added forests would roughly eliminate their carbon-storage benefits.

To estimate the climate impact of planting forests in different parts of the United States, ecologist Christopher Williams at Clark University in Worcester, Massachusetts, is combining global satellite data collected over more than a decade with carbon-sequestration figures based on data from the US Forest Service. He has found in preliminary work that adding trees to the US west coast and to regions east of the Mississippi River makes sense, climatically speaking. But albedo changes make forest planting in the Rockies and the southwestern United States a bad deal for the climate in most cases, because the conifers that thrive in those regions are dark and absorb more sunlight than do underlying soils or snow. He hopes to turn this research into a standardized methodology that forest managers can use to assess a project's climate impact.

Scientists who debate the climate impacts of forests are eager to get their hands on these data. And even those who are firmly convinced that forest projects can fight climate change welcome the added rigour of more-comprehensive studies.

1. Give the translation for the following words and expressions, write them into your vocabularies:

- global warming –
- carbon emissions –
- to absorb -
- carbon dioxide –
- sophisticated –
- cloud-cover changes –
- carbon-storage benefits –
- carbon-sequestration –
- climatically –
- forest managers –
- climate impact –
- forest planting –

2. Answer the questions:

- 1) According to Christopher Williams, does adding trees to the US west coast and to regions east of the Mississippi Rive make sense?
- 2) Are there any scientists who debate the climate impacts of forests?

3. Make true sentences:

1) But emerging research suggests that trees _____ always help as much as some hope:

- a) can not
- b) may not
- c) might not

2) Researchers are now turning to _____ and using larger and more-comprehensive data sets to nail down exactly what forests in different places do to the climate:

- a) significant computer models
- b) sophisticated computer models
- c) successful computer models

3) He hopes to turn this research into a standardized methodology that _____ can use to assess a project's climate impact:

- a) forest managers
- b) garden managers
- c) land mangers

4) Scientists who debate the _____ of forests are eager to get their hands on these data

- a) weather impacts
- b) climate impacts
- c) human impacts

5) When it comes to _____ global warming, trees have emerged as one of the most popular weapons:

- a) fighting
- b) beating
- c) struggling

4. Put the main ideas of the passages in the right order:

a) Scientists who debate the climate impacts of forests are eager to get their hands on the latest research.

b) It is time to take some actions, not only to discuss the problem.

c) Trees might not always help in fighting climate change

d) Still adding trees to the US west coast and to regions east of the Mississippi River makes sense.

e) Planting more trees would not affect the climate change significantly because of surface darkening and cloud-cover changes.

III VOCABULARY PRACTICE

1. Read the text.

Causes of Forest Death

It has turned out that forest death never actually affected more than 0.5 percent of the overall European forest area. The growth of European forest has not been reduced, as the theories about acid rain had predicted. During the past few decades, forest growth has strongly increased over large parts of Europe, concludes a Dutch study. Since the 1950s trees have begun to grow faster and faster. It is due to the fact that part of the trees fertilization requirement is provided for by nitrogen pollution. Large-scale reports are prepared now about the health of various species of trees in Europe. The proportion of trees with heavy foliage loss and the proportion of discolored trees is measured. This proportion grew dramatically from the first reports in 1983 and led to panic. However, this was due to a change in the method of calculation. Today, the proportion of trees showing heavy foliage loss is over 25 percent. Many people claim that our forests are in a bad state. According to frequently advanced theory, the pollution does not directly cause damage to the trees, but it weakens the trees' resistance, making them more susceptible to insect attack, frost and drought. The effect of this pollution can be indirect and delayed. However, there is very little or no correlation between the polluted areas and the forest death.

The European Environment Agency concludes that a causal connection cannot be established between an input of acid deposition and observed foliage reduction. The monitoring results show an increasing defoliation, but it may be due to the aging of the monitored tree stands.

2. Answer the following questions:

1) In what way has forest growth changed over large parts of Europe during the past few decades?

2) What kind of measurement was made to see the change of forest growth?

3) Have the proportion changed since the first reports in 1983?

4) According to the article, is there any correlation between the polluted areas and the forest death?

5) What is the reason for an increasing defoliation?

3. Discuss the state of natural forests in Ukraine and in your region. What steps might be taken to prevent the damage or risks?

4. Make the summary of the text.

IV VOCABULARY PRACTICE

1. Rearrange the words to make 'yes/no' and wh-questions.

1. you do watch want movie a tonight to
2. anywhere did you weekend interesting last go?
3. into your when you did move new house?
4. grow up did you where?
5. did for your car new much how pay you?
6. I borrow can your phone?
7. listening to what you are?
8. the game basketball who won?

2. Fill in *my, your, his, her, its, our, their*.

1. I don't know the time because I can't find ___ watch
2. What's the boy's name? _____ name is Ben Scott.
3. Debbie has got a dog. _____ dog is very lively.
4. The dog is very lively. _____ name is Ben.
5. We are at school. _____ school is very nice.
6. I have a new laptop _____ laptop is white.
7. I'm from Seattle. Most of _____ friends are from Seattle, too.
8. The rabbit is white. _____ cage is in the garden.
9. Sandra and Jenny are friends. _____ school is in the city centre.
10. The Millers have a new car. _____ car is blue.
11. Emma Peel has got a brother _____ name is Paul
12. Nick Baker has a sister. _____ name is Debbie
13. Yes, we have a dog. _____ dog is very old.
14. The boys have got a tortoise. _____ name is Trundle.

15. Suddenly the children see an old man. It's _____ grandfather.
16. Aunt Mary is sitting at the table. Peter fills _____ glass with juice.
17. We take the guitars and start to play. _____ music is great.
18. Captain Clark drives a yellow sports car. It's _____ car.
19. Tom and Robert like to eat fish and chips. It's _____ favourite food.
20. We cannot come on Saturday. It's _____ father's birthday.

3. Complete the sentences with *one* or *ones*.

1. Do you have a red biro? - Yes, I have three _____
2. Don't take the white socks. The black _____ are much cooler.
3. Are these your keys? No, mine are the _____ on the cupboard
4. Would you like to have a car? No, I don't need _____
5. Sam has got a blue schoolbag. I have a green _____
6. Have you bought presents for our two little _____ ?
7. Caroline has a big dog and two small _____
8. I haven't got a modern white shirt. I must buy a new _____
9. My crayons are too short. I must get new _____
10. This isn't my dictionary. I have got a bigger _____
11. Have you taken my calculator, Jim? This _____ isn't mine, I think it's yours.
12. Are these your shoes, Cindy? The brown _____ under the desk?
13. Where's my blouse, Mike? Which _____? The _____ I got from Aunt Augusta.
14. I haven't bought an anorak because I'm going to get _____ from my sister Jenny.
15. Your coloured pencils are really super. The _____ I have are bad quality.
16. Is there a chemist's nearby? Yes there's _____ at the end of this street.
17. Would you like a cup of tea? No, thanks, I had _____ an hour ago.
18. I don't like these trousers. Can you show me smaller _____?
19. I'll take these red roses and those yellow _____
20. This drink is too warm. I'd like a much cooler _____

4. Form the sentences:

- a) always / at nine o'clock / out of the garage / in the morning / drives / his car / he

- b) he / to town / after breakfast / often / Mrs Hodges / takes
- c) a parking place / near the shops / they / find / rarely
- d) sometimes / in a garage / Mr Hodges / his car / parks
- e) fly / with my parents / to Florida / sometimes / I / in winter
- f) late / came / last year / she / often / to school / in spring
- g) often / have / at about three o'clock / a cup of tea / they / at the hotel / in the afternoon
- h) meet / at the sports ground / they / after dinner / always / their friends
- i) enjoys / very much / swimming / in our pool / always / in the morning / she
- j) hardly / last year / could / ski / he

5. Find the correct definitions to the word combinations below:

Biological Clock Ecological Equivalent Ecosystem Ecology

a) Relation and interaction of both plant and animal communities with their total environment. It is the rhythmic occurrence of processes taking place within the organisms.

b) It is the physical space occupied by it, its functional role in the community i.e. trophic position, its position in environment and the conditions of existence.

c) Organisms that occupy the same or similar ecological niches in different geographical regions.

UNIT 8



Air Pollution

I LEAD-IN

- a) What is air pollution?
- b) Name some of the common pollutants
- c) What short-term problems can air pollution cause?

II READING

Air pollution is a mix of particles and gases that can reach harmful concentrations both outside and indoors. Its effects can range from higher disease risks to rising temperatures. Soot, smoke, mold, pollen, methane, and carbon dioxide are a just few examples of common pollutants.

In the U.S., one measure of outdoor air pollution is the Air Quality Index, or AQI which rates air conditions across the country based on concentrations of five major pollutants: ground-level ozone, particle pollution (or particulate matter), carbon monoxide, sulfur dioxide, and nitrogen dioxide. Some of those also contribute to indoor air pollution, along with radon, cigarette smoke, volatile organic compounds (VOCs), formaldehyde, asbestos, and other substances.

Poor air quality kills people. Worldwide, bad outdoor air caused an estimated 4.2 million premature deaths in 2016, about 90 percent of them in low- and middle-income countries, according to the World Health Organization. Indoor smoke is an ongoing health threat to the 3 billion people who cook and heat their homes by burning biomass, kerosene, and coal. Air pollution has been linked to higher rates of cancer, heart disease, stroke, and respiratory diseases such as asthma. In the U.S. nearly 134 million people—

over 40 percent of the population—are at risk of disease and premature death because of air pollution, according to American Lung Association estimates.

While those effects emerge from long-term exposure, air pollution can also cause short-term problems such as sneezing and coughing, eye irritation, headaches, and dizziness. Air pollutants cause less-direct health effects when they contribute to climate change. Heat waves, extreme weather, food supply disruptions, and other effects related to increased greenhouse gases can have negative impacts on human health.

Though many living things emit carbon dioxide when they breathe, the gas is widely considered to be a pollutant when associated with cars, planes, power plants, and other human activities that involve the burning of fossil fuels such as gasoline and natural gas. That's because carbon dioxide is the most common of the greenhouse gases, which trap heat in the atmosphere and contribute to climate change. Humans have pumped enough carbon dioxide into the atmosphere over the past 150 years to raise its levels higher than they have been for hundreds of thousands of years. Airborne particles, depending on their chemical makeup, can also have direct effects separate from climate change. They can change or deplete nutrients in soil and waterways, harm forests and crops, and damage cultural icons such as monuments and statues.

1. Give the translation for the following words and expressions, write them into your vocabularies:

- harmful concentrations—
- soot —
- mold —
- pollen —
- ground-level ozone —
- carbon monoxide —
- biomass —
- long-term exposure —
- heart disease —
- dizziness —
- natural gas —
- to deplete nutrients —
- health threat —
- airborne particles —
- outdoor / indoor air pollution —

2. Answer the questions:

- 1) How many people are at risk of disease and premature death because of air pollution in the USA?
- 2) What gas is the the most common of the greenhouse gases?

3. Are the following sentences true or false?

- 1) Soot, smoke, mold, pollen, methane, and carbon dioxide are a just few examples of common chemicals.
- 2) Poor air quality kills people.
- 3) In the U.S. over ten per cent of the population are at risk of disease and premature death because of air pollution.
- 4) Air pollutants cause less-direct health effects when they contribute to weather change.
- 5) Humans have pumped enough oxygen into the atmosphere over the past 150 years to raise its levels higher than they have been for hundreds of thousands of years.

4. Put the main ideas of the passages in the right order:

- a) Health problems which poor air causes.
- b) Carbon dioxide as the most common of the greenhouse gases
- c) Types of air pollution according to the Air Quality Index.
- d) Short-term health problems as a result of air pollution.
- e) What air pollution is and what main pollutants exist.

III VOCABULARY PRACTICE

1. Read the text.

What can be done?

Countries around the world are tackling various forms of air pollution. China, for example, is making strides in cleaning up smog-choked skies from years of rapid industrial expansion, partly by closing or cancelling coal-fired power plants. In the U.S., California has been a leader in setting emissions standards aimed at improving air quality, especially in places like famously hazy Los Angeles. And a variety of efforts aim to bring cleaner cooking options to places where hazardous cook stoves are prevalent. In any home, people can safeguard against indoor air pollution by increasing ventilation,

testing for radon gas, using air purifiers, running kitchen and bathroom exhaust fans, and avoiding smoking.

To curb global warming, a variety of measures need to be taken, such as adding more renewable energy and replacing gasoline-fueled cars with zero-emissions vehicles such as electric ones. On a larger scale, governments at all levels are making commitments to limit emissions of carbon dioxide and other greenhouse gases. The Paris Agreement, ratified on November 4, 2016, is one effort to combat climate change on a global scale.

2. In pairs, discuss the following questions:

1) Introducing the renewable energy sources may help in reducing global warming effects.

2) Replacing gasoline-fueled cars with zero-emissions vehicles such as electric ones can be another way to deal with the problem of global warming.

3) How can setting emissions standards aimed at improving air quality help in fighting the global warming and climate change?

3. Make short summary of the text.

IV LANGUAGE PRACTICE

1. Fill in *much* or *many*:

1. I'm sorry, I don't have _____ time.
2. That store hasn't _____ notebooks.
3. Today I've _____ work to do.
4. He always puts _____ sugar in his tea.
5. She didn't make _____ mistakes in her test.
6. We don't have _____ juice left. I'll go to buy some.
7. How _____ money do you earn?
8. We didn't take _____ photos when we were on vacation.
9. Did you get _____ homework?
10. How _____ sisters does he have?
11. I put a lot of salt in my soup. Perhaps too _____
12. She couldn't sell _____ cars last year.
13. How _____ players are in a football team?
14. It's only a small town. There isn't _____ to do.
15. He has worked _____ better lately.

2. Choose the correct variant:

1)

A All the students have their own rooms.

B All the student have their own rooms.

2)

A Every information about accommodation is on our website.

B All the information about accommodation is on our website.

3)

A Every student has their own room.

B Each student has their own room

4)

A All of the students have a phone in the room.

B Every of the students a phone in their room.

3. Fill in the blanks with *other*, *others* or *another*:

1. He has bought _____ home.

2. Where are the _____?

3. Show me the _____ hand?

4. Can I have _____ cup of coffee?

5. We must love one _____.

6. The two brothers love each _____.

7. I can't find the _____ photos.

8. Tom has arrived but the _____ haven't.

9. You won't get _____ chance.

10. Do you have any _____ colors?

11. You can take this. I will take the _____ one.

12. You should water the plants every _____ day.

4. Are the question tags used correctly in these sentences? Correct mistakes in the sentences where it is necessary:

1) Their names are Bill and Bob, aren't they?

2) You should be able to understand the lesson, wouldn't you?

3) We were at the Jubilee Hotel last year, didn't we?

4) You can pick up an information pack at the hotel, can't you?

5) Most people weren't sure where to go, were they?

6) You're not hungry already, don't you?

- 7) Brian knows how to drive those big trucks, doesn't he?
- 8) George is in the office, doesn't he?

5. Put these words in the correct order to make sentences with question tags:

- 1) good / Spanish / speak / you / you / don't ?
- 2) we / aren't / very / we're / meeting / the / late / ? / for
- 3) me / really / dress / doesn't / ? / does / this / suit / it
- 4) a / without / drive / he / shouldn't / that / should / helmet / dave / motorbike /?
- 5) wouldn't / some / more / like / ice / you / you'd / ? / cream
- 6) were / TV / you / you / weren't / great / watching / movie / that / ? / on
- 7) cold / is / outside / not / it / it's ?
- 8) never / ? / the / he / been / has / army / Julian / in / has

6. Find the correct definitions to the word combinations below:

Fauna Flora Abundance Acid precipitation

- a) The total number of organisms in a biological community.
- b) It is a collective term used for all the animals in a given region or geological period.
- c) The deposition of wet acidic solutions or dry acidic particles from the air and includes acid fog, snow, etc.
- d) Collective term for all the plants big and small found in a given region or geological period.

UNIT 9



Water Pollution

I LEAD-IN

- a) Have you heard about "green" infrastructure?
- b) What are the scientists able to detecting Earth's freshwater bodies nowadays?
- c) Where has regulation restricted industry and agricultural operations from pouring pollutants into lakes, streams, and rivers?

II READING

As technology improves, scientists are able to detect more pollutants, and at smaller concentrations, in Earth's freshwater bodies. Containing traces of contaminants ranging from birth control pills and sunscreen to pesticides and petroleum, our planet's lakes, rivers, streams, and groundwater are often a chemical cocktail.

Beyond synthetic pollution, freshwater is also the end point for biological waste, in the form of human sewage, animal excrement, and rainwater runoff flavored by nutrient-rich fertilizers from yards and farms. These nutrients find their way through river systems into seas, sometimes creating coastal ocean zones void of oxygen—and therefore aquatic life—and making the connection between land and sea painfully obvious. When you dump paint down the drain, it often ends up in the ocean, via freshwater systems.

In the developed world, regulation has restricted industry and agricultural operations from pouring pollutants into lakes, streams, and rivers. Technology has also offered a solution in the form of expensive filtration and treatment plants that make our drinking water safe to consume. Some cities are even promoting "green" infrastructure, such as green roofs and rain gardens, as a way to naturally filter out pollutants. But you may find a different picture in parts of

the developing world, where there is less infrastructure—politically, economically, and technically—to deal with the barrage of pollution threats facing freshwater and all of the species that rely on it.

There are three curious facts about water pollution. First of all, in developing countries, 70 percent of industrial wastes are dumped untreated into waters, polluting the usable water supply. You might be surprised, but on average, 22 million tons of fertilizers and chemicals are used each year. And now here is the last fact. "Green roofs" help to prevent sewer overflows and help to catch stormwater and cool the environment.

1. Give the translation for the following words and expressions, write them into your vocabularies:

- pollutant –
- synthetic pollution –
- pesticides –
- freshwater –
- rainwater –
- biological waste –
- nutrient-rich –
- aquatic life –
- nutrient –
- coastal ocean zones –
- "green" infrastructure –
- fertilizer –
- "green roofs" –
- to consume –
- stormwater –
- rain gardens –

2. Answer the questions:

1. Describe the situation with water pollution in some parts of the developing world.
2. What are the three curious facts about water pollution?

3. Rearrange the following sentences in order they appear in the text:

- a) Beyond synthetic pollution, freshwater is also the end point for biological waste.

b) On average, about 22 million tons of fertilizers and chemicals are used each year.

c) When you dump paint down the drain, it often ends up in the ocean, via freshwater systems.

d) "Green roofs" help to catch stormwater and cool the environment.

e) Some countries promote "green" infrastructure, such as green roofs and rain gardens, as a way to naturally filter out pollutants.

4. Are the following sentences true or false?

1) Scientists are not able to detect more pollutants, and at smaller concentrations, in Earth's freshwater bodies.

2) In the developing world, regulation has restricted industry and agricultural operations from pouring pollutants into lakes, streams, and rivers.

3) Technology has also offered a solution in the form of cheap filtration and treatment plants that make our drinking water safe to consume.

4) In developing countries, 70 percent of industrial wastes are dumped untreated into waters, polluting the usable water supply.

5) "Green" infrastructure includes green roofs and rain gardens as a way to naturally filter out pollutants.

III VOCABULARY PRACTICE

1. Read the text.

If the climate change continues to progress, increased precipitation could mean detrimental outcomes for water quality in the United States, a major new study warns. An intensifying water cycle can substantially overload waterways with excess nitrogen runoff—which could near 20 percent by 2100—and increase the likelihood of events that severely impair water quality, according to a new study published by *Science*.

When rainfall washes nitrogen and phosphorus from human activities like agriculture and fossil fuel combustion into rivers and lakes, those waterways are overloaded with nutrients, and a phenomenon called "eutrophication" occurs.

This can be dangerous for both people and animals. Toxic algal blooms can develop, as well as harmful low-oxygen dead zones known as hypoxia, which can cause negative impacts on human health, aquatic ecosystems, and the economy. Notable dead zones include those in the Gulf of Mexico, the

Chesapeake Bay, and around Florida. In the new study, researchers predict how climate change might increase eutrophication and threats to water resources by using projections from 21 different climate models, each of which was run for three climate scenarios and two different time periods (near future, 2031-2060, and far-future, 2071-2100).

2. Chose the sentence which describes the main idea of the text:

- a) Climate change is the result of global water pollution
- b) "Eutrophication" is quite dangerous phenomenon
- c) The quality of water has recently decreased

3. Make the summary of the text.

IV LANGUAGE PRACTICE

1. Choose the correct answer. Fill in the gaps with *few* or *little*:

- 1. This president had _____ power.
- 2. She spoke _____ English. It was nearly impossible to understand her.
- 3. They got _____ complaints.
- 4. I'm sorry, but I have _____ time to waste.
- 5. He is lucky. He has _____ problems.
- 6. They have _____ interest in politics.
- 7. There's very _____ communication between them.
- 8. _____ children understood the difference.
- 9. We had _____ hope that his sister would survive.
- 10. Very _____ students studied Latin last year.

2. Put expressions of time and place at the end of the sentence:

- 1. leave / seven / in / must / at / the / we / house / o'clock / morning / the
- 2. usually / on / her / she / grandparents / Saturday / visits / afternoon
- 3. in / cinema / they / the / yesterday / of / met / o'clock / front / eight / at
- 4. homework / with / couldn't / the / he / English / her / help
- 5. had / wasn't / yesterday / a / my / school / because / she / cold / at / sister
- 6. the / and / to / disco / movies / went / then / a / we / to
- 7. usually / tennis / times / week / parents / three / play / a / my
- 8. half / during / always / at / to / have / I / up / week / past / get / the / six

9. news / them / we / the / afternoon / tell / tomorrow / will
10. still / them / and / found / the / dad / keys / hasn't / lost

3. Make questions for the words in bold:

1. He likes **my dog**.
2. He ate **two** packets of crisps
3. She goes **to the university**.
4. **The glass** has broken.
5. They like him **because he is always friendly**.
6. **The Millers** live in a cottage.
7. She played tennis **from 1980 to 1987**.
8. The man looks **confused**.
9. They stole **George's** bike.
10. The cat ate **the sausage**.
11. He drives to San Francisco **every weekend**.
12. They left **three days ago**.
13. She bought a new car **because her old one broke down**.
14. He lived in London **from May to October**.
15. They play tennis **every Thursday**.

4. Fill in *in, out, up* or *on*:

1. Please hold _____ while I transfer you to the Sales Department.
2. Somebody broke _____ last night and stole our TV.
3. They were giving _____ free perfume samples at the department store.
4. Joe made _____ a story about why we were late.
5. We ran _____ of shampoo so I had to wash my hair with soap.
6. It's too dark in here. Let's turn some lights _____ .
7. Our plan worked _____ fine.
8. My boyfriend and I broke _____ before I moved to America.
9. I have to hand _____ my essay by Tuesday.
10. Two men in black masks held the bank _____ this morning.
11. The teacher passed the textbooks _____ before class.
12. I gave _____ smoking a month ago
13. If you keep those results _____ you will get into a great university.
14. The prisoners broke _____ of jail when the guards weren't looking
15. He got _____ late this morning.

UNIT 10



The Pollution of Soils

I LEAD-IN

- a) What do you think we can call “the thin skin of our earth”?
- b) How much of the world’s soil have already been damaged by water and wind erosion, deforestation, compaction, nutrient depletion, and pollution?
- c) What do you think is the worst problem connected with pollution of soils nowadays?

II READING

We lavish attention on our food, we want to know where it came from, who grew it, and whether it is “conventional” or “organic.” But we give hardly a passing thought to the ground our food grew in. Soil could use some more attention and respect. After all, soil is the thin skin of our earth where we plant and grow the vital grain crops like wheat, rice, and corn that feed more than seven billion of us.

And while the future rests on the soil beneath our feet, as *National Geographic* also put it in a 2008 article on soils, history is littered with the remains of civilizations that ignored, exploited, and degraded the soil beneath their feet.

One third of the world’s soil already has been damaged by water and wind erosion, deforestation, compaction, nutrient depletion, and pollution. By our own actions, we are losing soil faster than nature can create it, and as population keeps growing we also pave over some of the most productive farmland for urban areas. The United Nations says that unless we protect the remaining soil and improve land use and conservation practices, the global amount of arable

and productive land per person in 2050 will be only a quarter of what it was in 1960.

In the late 1930s, soil scientist W.C. Lowdermilk traveled across Europe, North Africa, and the Near East to investigate why past civilizations failed, and persevered, by looking at the effect of agricultural practices over the past 7,000 years. He visited lands that had been in cultivation for centuries to understand the link between soil erosion and the fate of civilizations.

Lowdermilk sought insights that could help avoid a repeat of the Dust Bowl, a 1930s southern Great Plains soil erosion disaster caused by the “Great Plow-Up” of perennial grasslands to grow annual wheat that coincided with a decade-long drought. Huge dust storms blew Plains soil as far east as Washington, D.C., and thousands of people in Oklahoma, Kansas, and nearby states were driven from their land.

On Lowdermilk’s 18-month journey of toppled empires and vanished civilizations, he found that soil losses from wind and water erosion, soil salination from irrigation, deforestation, overgrazing, and conflicts between crop farmers and herdsman all had contributed to failure of society. He also found that careful stewardship of soil with land terracing, crop rotation, tree planting and other methods that keep soil covered has allowed societies to flourish for centuries.

1. Give the translation for the following words and expressions, write them into your vocabularies:

conventional –

organic –

soil –

farmland –

urban areas –

cultivation –

arable land –

organic land –

agricultural practices –

soil erosion –

dust storms –

salination –

irrigation –

deforestation –

overgrazing –
stewardship of soil –
land terracing –
crop rotation –

2. Answer the questions:

- 1) When did the soil scientist W.C. Lowdermilk travel across Europe, North Africa, and the Near East?
- 2) What did Lowdermilk find during his 18-month journey?
- 3) What other methods that keep soil covered has allowed societies to flourish for centuries?

3. Rearrange the following sentences in order they appear in the text:

- a) Huge dust storms blew and thousands of people in some states in the USA were driven from their land.
- b) We are losing soil faster than nature can create it.
- c) W.C. Lowdermilk visited lands that had been in cultivation for centuries to understand the link between soil erosion and the fate of civilizations.
- d) One third of the world’s soil already has been damaged.
- e) Soil is worth some more attention and respect.

III LANGUAGE PRACTICE

1. Read the text.

A 2015 study in *Science* called “Soil and Human Security in the 21st Century” reports that a recent rise in research on soils and soil health has been encouraging, but that soil conservation—preserving soil carbon, cutting erosion, and improving soil nutrients—must increase significantly, and soon, to protect the remaining soils we rely on. “These are challenging goals that will be difficult to achieve,” the study says, “much like the approaches required to contend with climate change.”

Unless we ramp up our efforts to conserve remaining soils, our own future is at risk, just like the vanished civilizations Lowdermilk studied more than 75 years ago. In decades ahead the pressure on the world’s soils to grow even more food will only rise as population likely rises past nine billion by 2050. While we observe World Food Day on Friday, with a focus this year on supporting family farmers, remember that healthy soils are vital to the success of all farmers.

2. Make the summary of the text.

3. Fill in the correct prepositions

1. I'm angry _____ him for telling lies about me.
2. Are you afraid _____ him?
3. I'm very proud _____ my son because he works really hard.
4. He is married _____ his sister.
5. It's very nice _____ you to lend me your car.
6. Why are you always so rude _____ your parents?
7. It wasn't very polite _____ him to leave without saying thank you.
8. I can't understand people who are cruel _____ animals.
9. I have to stop talking to you. I'm a bit short _____ time.
10. Are you interested _____ football?
11. Your shoes are similar _____ mine but they are not exactly the same.
12. We've got enough to eat. The fridge is full _____ food.

IV LANGUAGE PRACTICE

1. Are these sentences correct or wrong? Find the mistakes where they are.

1. She wanted to know whether I had the flight details.
2. He was wondering whether he could buy a kilt.
3. She demanded me to call her.
4. I asked her how she was doing.
5. I asked her if she was prepared for it.
6. She asked me if I could turn on my web cam.
7. She couldn't stop asking whether I had a haircut.
8. She asked weather I could write a letter for her.
9. She wanted to know if I had gone shopping.
10. She asked me whether I has passed all my exams.
11. I asked her if she was coming to visit me.
12. She wanted to know if I had visited my grandmother recently

2. Match the best response to each of the statements:

I hope so So cold! Neither was I You are so kind! So have I!

1. What was Canada like?
2. Do you think we'll win the match tonight?

3. I've got two sisters.
4. I wasn't expecting this.
5. I'll give you a lift if you want.

3. Fill in *off, down, over, around* or *after*.

1. I asked _____ but nobody has seen my wallet
2. I take _____ my mother. We are both impatient.
3. Jason called the wedding _____ because he wasn't in love with his girl friend.
4. The policeman asked the man to hand _____ his driving licence.
5. We called _____ but we weren't able to find the car part we needed.
6. This sad music is bringing me _____ .
7. Take _____ your shoes and get into the house.
8. We had to cut the old tree in our garden _____ after the storm.
9. My brother tried to go _____ the burglar in his car.
10. I accidentally ran _____ your bicycle in the driveway.
11. Most of my make-up wore _____ before I got to the party.
12. My grandfather can get _____ fine in his new wheelchair.
13. We are putting _____ our trip until January because of the hurricane.
14. I have to look _____ my uncle.
15. At the end of September the first fruits are ripe and they can be cut _____ the tree.

4. Put the sentences into reported speech.

1. The girl said, "I have done my homework."
The girl said _____
2. Mr Sellers said, "I am going to London tomorrow."
Mr Sellers said _____
3. She wanted to know, "Does he work for an insurance company?"
She wanted to know _____
4. Mr Jones told me, "Don't put your shoes on the table!" Mr Jones told me _____
5. They told her, "Run as fast as you can!"
They told her _____
6. He asked her, "Do you know my parents?"
He asked her _____
7. They asked him, "How long do you have holidays this year?"

They asked him _____

8. They told us, "We are listening to the radio."

They told us _____

9. She asked me, "What are you doing tomorrow?"

She asked me _____

10. She asked them, "Did you watch the movie yesterday?"

She asked them _____

11. She told him, "Don't drive so fast!"

She told him _____

12. He shouted, "Give it to me!"

He shouted _____

13. John explained, "Susan will help me."

John explained _____

14. He asked me, "Have you ever read this book?"

He asked me _____

15. Mr Cook told us: "Clean your shoes and come in!"

Mr Cook told us _____

UNIT 11



Mining and Processing of Minerals

I LEAD-IN

- a) What is a ‘mineral’?
- b) What natural objects are composed of minerals?
- c) In what industrial sectors are blocks of suitable rock used?

II READING

A ‘mineral’ is a naturally occurring inorganic substance with a crystalline structure and characteristic chemical composition. Rocks are composed of minerals. Whole rock is obtained by quarrying. Blocks of suitable rock are used for construction, in the case of slate after being split into thin sheets for roofing and cladding. Sand and gravel is also used for building, mainly of roads. Clay, won by a type of open-cast mining, is used for brick-making. High-pressure hoses (called ‘monitors’) are used to wash kaolin, or china clay, from the granite matrix in which it occurs, and it is removed as a slurry for purifying and drying. It was used originally to make fine ceramics (porcelain) but its principal use now is as a filler and whitener in paper and other materials.

Rock and building stone are quarried on a huge scale. Each year, over the world as a whole, rivers deliver to the sea about 24 billion tonnes of naturally weathered rock. Humans remove about 3 billion tonnes a year. This means we are now quarrying amounts comparable to those removed by natural processes. Most modern quarries and open-cast mines are very large and, because they exist to detach and remove rock, cannot avoid devastating their sites. Nowadays planning consents require such sites to be restored when operations cease, but many older, abandoned quarries remain. The disfigurement they cause is not permanent, although it is only fair to point out that most older quarries were much smaller than modern ones and produced building stone, sand, or gravel in modest amounts for local use. Quarries scar the land, but they do not poison it and in time

plants colonize the bare ground. An unrestored quarry site is rarely of any agricultural use and so usually it remains undisturbed and eventually may mature into a place of considerable interest to naturalists and conservationists. Mineral mining, as opposed to the quarrying of rock, is much more disruptive, because it involves separating the desired minerals from the valueless minerals with which they are associated. The minerals themselves may be gemstones.

Sapphires, oriental emeralds, and rubies are all aluminium oxides (Al_2O_3), differing from one another because of colours imparted by impurities; beryl is a compound of beryllium, aluminium, silicon, and oxygen ($\text{Be}_3\text{Al}_2\text{Si}_6\text{O}_{18}$); and diamond is a form of pure carbon. All are minerals and their high monetary value indicates their rarity: if they were common they would be cheap. When a rare substance is separated from the commoner substance containing it, a residue remains and this can cause environmental difficulties. Metals are separated from their ores, an ore being a body of rock containing that metal in a compound, called an ore mineral, in a concentration high enough to be extracted economically. The concentration of the metal within its ore mineral may be quite high. Chalcocite (Cu_2S), for example, is 80 per cent copper and the best-quality uranite, or pitchblende (UO_2), is 85 per cent uranium, but the concentration of the metal within the ore (the rock containing the ore mineral) is very different. Iron ores are widespread and abundant, and iron is seldom extracted from ores containing less than 25 per cent of the metal, but scarcer metals commanding a high market price can be extracted economically from ores containing as little as 1 per cent or even less, for example in the case of copper. This means that in the case of iron, up to 75 per cent of the rock, and with some metals as much as 99 per cent of it, is useless waste for which some means of disposal must be found.

1. Give the translation for the following words and expressions, write them into your vocabularies:

mineral –

chemical composition –

open-cast mining –

kaolin –

quarries –

aluminium –

beryllium –

silicon –

ore –

to be extracted –
disposal –
chalcocite –
oriental emerald –
sapphire –
ruby –
aluminium oxides –
gemstone –

2. Answer the questions:

- 1) How many tones of naturally weathered rock do rivers deliver to the sea?
- 2) Are mineral mining and quarrying of rock the identical processes?
- 3) May the minerals themselves be gemstones?
- 4) What do sapphires, oriental emeralds and rubies have in common?

3. Rearrange the following sentences in order they appear in the text:

- Iron ores are widespread and abundant, and iron is seldom extracted from ores containing less than 25 per cent of the metal.
- Chalcocite is 80 per cent copper and the best-quality uranite.
- Quarries damage the land, but they do not poison it and in time plants colonize the bare ground.
- Metals are separated from their ores, an ore being a body of rock containing that metal in a compound, called an ore mineral, in a concentration high enough to be extracted economically.
- Rocks are composed of minerals.

III VOCABULARY PRACTICE

1. Read the text.

Some metals are purified by electrolysis. Copper, for example, is obtained by passing an electric current through a copper sulphate solution. The anode (positive electrode) is made of ore, the cathode (negative) of pure copper. Copper ions move from the solution to the cathode and sulphate ions recombine with copper at the anode. Aluminium is also purified by electrolysis because, although it occurs as oxide ores, its affinity for oxygen is so great that heating cannot reduce it without also reducing all its impurities. At every stage, from cutting the ore from the ground to extracting the metal from its ore mineral, the pollution risk

is obvious and high. The pollution is contained by sealing tailings so dust cannot blow from them, or noxious liquors leach from them, removing gases and dust from smelters before they reach the outside air, and by treating liquid effluents. A completely different technology now exists for extracting some metals. Bacteria that either possess the ability to isolate particular metals from their compounds or can be genetically modified to make them do so allow metals to be obtained with much less environmental disruption. *Thiobacillus ferrooxidans*, for example, separates copper into an acid solution containing about 50 parts of copper per million. Sulphuric acid containing the bacteria is sprayed on to the ore rock, the liquor is collected, and the metal is removed, in this case at about one-third the cost of conventional processing, and yielding nickel as a by-product. Uranium can also be 'mined' in this way.

2. Choose the best headline for the text:

- a) How metals are purified
- b) New technology now for extracting metals
- c) Bacteria helps to obtain metals with much less environmental disruption.

3. Make the summary of the text.

4. Fill in *a, an* or *some* into the gaps:

- 1. This is _____ important English word.
- 2. Peter works in _____ office
- 3. Give him _____ apples!
- 4. Do you like _____ toast?
- 5. He has _____ blue mountain bike.
- 6. They have got _____ excellent idea.
- 7. Can you lend me _____ money?
- 8. He is _____ policeman.
- 9. They have got _____ hamsters
- 10. Can I have _____ orange, please?
- 11. Bill has got _____ azure snowboard.
- 12. This is _____ interesting story.
- 13. They like _____ hamburgers for lunch.
- 14. This is _____ expensive hotel.
- 15. Do you have _____ mobile phone?
- 16. She is _____ nice teacher.

17. We live in _____ old house.
18. He is _____ arrogant boy.
19. She is _____ beautiful girl.
20. We have to study for _____ tests next week.

IV LANGUAGE PRACTICE

1. Put expressions of time and place at the end of the sentence.

1. o'clock / by / are / sure / make / you / eight / here

2. Ireland / liked / much / in / was / month / very / I / and / last / there / it / I

3. arrested / murder / man / the / who / a / of / was / police / guilty

4. George / bus / morning / work / the / every / to / takes

5. news, / phoned / immediately / When / I / heard / her / the / I

6. shopping / Monday / open / mall / next / will / the / new

7. minutes / name / remembered / after / her / few / I / a

8. tried / before / you / this / Have / ever ?

9. days / going / for / Boston / week / to / I'm / few / next / a

10. see / party / you / Tom's / Friday / didn't / at / last / I

arm / immediately / got / rang, / the / of / the / When / bed / out / I

12.were / while / couldn't / find / for / We / for / but / looking / a / it / it

2. Fill in the correct prepositions

1. I'm angry _____ him for telling lies about me.
2. Are you afraid _____ him?
3. It's very nice _____ you to lend me your car.
4. He is married _____ his sister.
5. It's very nice _____ you to lend me your car.
6. Why are you always so rude _____ your parents?
7. It wasn't very polite _____ him to leave without saying thank you.
8. I can't understand people who are cruel _____ animals.
9. I have to stop to talk to you. I'm a bit short _____ time.
10. Are you interested _____ football?
11. Your shoes are similar _____ mine but they are not exactly the same.
12. We've got enough to eat. The fridge is full _____ food.
13. I felt sorry _____ the children because it rained every day.
14. He said he was sorry _____ the situation but there was nothing he could do.
15. He is good _____ playing chess

3. Make questions for the words in bold and word combinations.

1. They took **the children** home.
2. He went to **the bakery**
3. They got to the airport **by taxi**.
4. They go shopping **once a week**.
5. **Jane** opened the door.
6. They have got **five** cats.
7. He bought **a house**.
8. The cat ate **the fish**.
9. **The flower pot** fell on the floor.
10. They sell **20** kilos of sugar a day.
11. He found **Pamela's** key.
12. **The boys** play football
13. They came late **because they had an accident**.
14. He lives **in a big house**.
15. **His car** broke down.

UNIT 12



Nuclear Energy and Oil

I LEAD-IN

- 1) Is nuclear energy produced in our country?
- 2) What is the reason for recession in this sphere?
- 3) Can we call nuclear energy rather safe source of power?

II READING

Nuclear energy constitutes six percent of global energy production and 20 percent in the countries that have nuclear power. Despite growth in Asia, the prospects for this sector spell stagnation until 2010 and a minor recession after that. This recession is mainly caused by perceived problems of security as stressed by the accidents at Three Mile Island and Chernobyl which undermined many people's confidence in this energy source. Ordinary nuclear power exploits the energy of fission by cleaving the molecules of uranium-235 and reaping the heat energy. The energy of one gram of 8 uranium-235 is equivalent to almost three tons of coal.

Nuclear power is also a very clean energy source which, during normal operation, almost does not pollute. It produces no carbon dioxide and radioactive emissions are actually lower than the radioactivity caused by coal-fueled power plants. At the same time nuclear power also produces waste materials that remain radioactive for many years to come (some beyond 100,000 years). This has given rise to great political debates on waste deposit placement and the reasonable of leaving future generations such an inheritance. Additionally, waste from civilian nuclear reactors can be used to produce plutonium for nuclear weapons. Consequently, the use of nuclear power in many countries also poses a potential security problem. For the moment there is enough uranium-235 for about 100 years.

However, a special type of reactor – the so-called fast-breeder reactor – can use the much more common uranium-238 which constitutes over 99 percent of all uranium. The idea is that while uranium-238 cannot be used directly in energy production it can be placed in the same reactor core with uranium-235. The uranium-235 produces energy as in ordinary reactors, while the radiation transforms uranium-238 to plutonium-239 which can then be used as new fuel for the reactor. It sounds a bit like magic, but fastbreeder reactors can actually produce more fuel than they consume. Thus it is estimated that with these reactors there will be sufficient uranium for up to 14 000 years. Unfortunately these reactors are more technologically vulnerable and they produce large amounts of plutonium that can be used for nuclear weapons production, thus adding to the security concerns. Nuclear power, however, has barely been efficient in the production of energy and this is probably the major reason why its use has not been more widespread. It is difficult to find unequivocal estimates of the total costs since there are so many different variables that can affect the calculations, but typically the price hovers around 11–13 cents for one kilowatt-hour (kWh) in 1999 prices. This should be compared with an average energy price for fossil fuels of 6,23 cents. In the longer run, the primary focus is no longer on fission energy but rather on fusion energy. This technology aims at fusing two hydrogen atoms into a single atom of helium. A single gram of fuel can develop the same energy as 45 barrels of oil. Fuel comes basically from ordinary sea water and thus supply is virtually infinite. Moreover, there will be very little radioactive waste or emissions. However, fusion demands astronomical temperatures and despite investments above \$20 billion we have still only managed to achieve 10 percent of the laser power necessary for producing energy. It is supposed that fusion energy will be commercially available only after 2030 or perhaps only well into the twenty-second century.

1. Give the translation for the following words and expressions, write them into your vocabularies:

nuclear power –

uranium –

plutonium –

radioactive emissions –

reactor –

fastbreeder reactor –

fossil fuels –

fission energy –
fusion energy –
astronomical temperatures –

2. Answer the questions:

- 1) How many percent does nuclear energy constitute?
- 2) What is the reason for recession in this sphere?
- 3) How many grams of uranium-235 are equivalent to almost three tons of coal in producing energy?
- 4) Has nuclear power been efficient in the production of energy?
- 5) In the longer run, where would be the primary focus – on fission energy or on fusion energy?
- 6) When will fusion energy be commercially available?

3. Are the following sentences true or false?

- a) The energy of one gram of plutonium- 235 is equivalent to almost three tons of coal.
- b) It is estimated that with the reactors there will be sufficient uranium for up to 14,000 years.
- c) It is difficult to find unequivocal estimates of the total costs since there are so many different variables that can affect the calculations.
- d) Fuel comes basically from soil and thus supply is virtually infinite.
- e) A single gram of fuel can develop the same energy as twenty barrels of oil.
- f) There will be very little radioactive waste or emissions.

III VOCABULARY PRACTICE

1. Read the text:

The US Energy Information Agency estimates that today it will be possible to produce about 550 billion barrels of oil from tar sands and shale oil at a price below \$30, i.e. that it is possible to increase the present global oil reserves by 50 percent. And it is estimated that within 25 years we can commercially exploit twice as much in oil reserves as the world's present oil reserves. Should the oil price increase to \$40 per barrel we will probably be able to exploit about five times the present reserves. The total size of shale oil resources is quite numbing. It is estimated that globally there is about 242 times more shale oil than the conventional petroleum resources. There is more than eight times more energy in

shale oil than in all other energy resources combined – oil, gas, coal, peat and tar sands.

This stunning amount of energy is the equivalent of our present total energy consumption for more than 5 000 years. Consequently, there is no need for any immediate worry about running out of fossil fuels. A proportion of the fossil fuels, however, are probably only accessible at a higher price. Still, there is good reason to believe that the total energy share of our budget – even if we continue to depend solely on fossil fuels – will be dropping. Today the global price for energy constitutes less than 2 percent of the gross domestic product (GDP), and yet if we assume only a moderate continued growth in GDP this share will in all likelihood continue to drop. Even assuming truly dramatic price increases on energy of 100 percent, by the year 2030 the share of income spent on energy will have dropped slightly.

2. Choose the best headline for the text:

- a) No need for any immediate worry about running out of fossil fuels.
- b) The oil price should increase
- c) Amount of energy consumption will decrease during the next 5,000 years.

3. Make the summary of the text.

4. Write down the sentences into correct order:

- 1. is / near / school / There / new / a / our / cinema
- 2. got / my / problem / I / with / have / homework / a
- 3. when / can / help / she / thinks / problem / we / Mary / has / her / a
- 4. well / think / your / very / I / don't / father / drives
- 5. to / we / On / a / restaurant / sometimes / Sundays / go
- 6. circus / went / with / we / ago / the / Two / my / to / parents / months
- 7. did / very / The / trick / well / magician / his
- 8. after / Jim / sister / Mother / look / asked / his / to / younger
- 9. her / Cindy / you / I / found / Can / tell / that / have / necklace
- 10. way / on / bike / Mike / on / is / his / to / his / school.

IV LANGUAGE PRACTICE

1. Fill in the correct prepositions:

- 1. I'm angry _____ him for telling lies about me.

2. Are you afraid _____ him?
3. I'm very proud _____ my son because he works really hard.
4. He is married _____ his sister.
5. It's very nice _____ you to lend me your car.
6. Why are you always so rude _____ your parents?
7. It wasn't very polite _____ him to leave without saying thank you.
8. I can't understand people who are cruel _____ animals.
9. I have to stop talking to you. I'm a bit short _____ time.
10. Are you interested _____ football?
11. Your shoes are similar _____ mine but they are not exactly the same.
12. We've got enough to eat. The fridge is full _____ food.

2. Fill in *can, have to, may, might, must, need, should* or *(not) allowed to*:

1. George has travelled a lot. He _____ speak many languages.
2. I can hear you quite well. You _____ not shout.
3. I'm not sure where I will go for my holidays, but I _____ go to Italy.
4. She _____ ride her bike at night without lights. It's not allowed.
5. She _____ not eat so much chocolate because it's bad for her figure.
6. I _____ understand him. He should speak louder.
7. It's later than I thought. I _____ go now.
8. You _____ a better trainer if you want to improve yourself.
9. Talk to Ann about your problems. I'm sure she _____ help you.
10. You _____ not vacuum the carpets because Carol has already done it.
11. You _____ be tired because you have worked very hard.
12. He _____ come to my party because he is ill.
13. He _____ go to the dentist when he has toothache.
14. It's not very important. You _____ not do it now. You _____ do it tomorrow.
15. _____ you speak many languages?
16. I don't know what I'm doing this weekend, but I _____ go to London.
17. Smoking is very unhealthy. You _____ stop it.
18. Playing football _____ in this park.
19. You have got plenty of time. You _____ not hurry.
20. You _____ have a passport to visit most foreign countries.

3. Fill in *can, could, must, may, might* or *should*:

1. Are they ready? I'm not sure. They _____ need some more minutes
2. _____ I come in? Yes, please.
3. I can't find Grace. She _____ have gone out.
4. Bill isn't at work today. I suppose he _____ be ill.
5. Peter _____ drive but he hasn't got a car.
6. _____ we invite her to our party? Yes, I think we _____.
7. Frank hurt his leg, so he _____ not walk very well.
8. It's later than I thought. I _____ go now.
9. He _____ play golf very well.
10. They have been working all day. They _____ be hungry.
11. Where is Sandra? She _____ be in her office.
12. I think we _____ take out travel insurance.
13. The weather forecast is not good. It _____ rain today.
14. Where will you spent your next holidays? I _____ go to France
15. I looked everywhere but I _____ not find it.

ADDITIONAL TEXTS FOR READING

Unit 1

THE OZONE HOLE

Although ozone (O₃) is present in small concentrations throughout the atmosphere, most ozone (about 90 %) exists in the stratosphere, in a layer between 10 and 50 km above the surface of the earth. This ozone layer performs the essential task of filtering out most of the sun's biologically harmful ultraviolet (UV-B) radiation. Concentrations of ozone in the atmosphere vary naturally according to temperature, weather, latitude and altitude. Furthermore, aerosols and other particles ejected by natural events such as volcanic eruptions can have measurable impacts on ozone levels.

In 1985, scientists identified a thinning of the ozone layer over the Antarctic during the spring months, which became known as the "ozone hole". The scientific evidence shows that human-made chemicals are responsible for the creation of the Antarctic ozone hole and are also likely to play a role in global ozone losses. Ozone Depleting Substances (ODS) have been used in many products which take advantage of their physical properties (e.g. chlorofluorocarbons (CFCs) have been used as aerosol propellants and refrigerants). CFCs are broken down by sunlight in the stratosphere, producing halogen (e.g. chlorine) atoms, which subsequently destroy ozone through a complex catalytic cycle.

Ozone destruction is greatest at the South Pole where very low stratospheric temperatures in winter create polar stratospheric clouds (PSCs). Ice crystals formed in PSCs provide a large surface area for chemical reactions, accelerating catalytic cycles. The destruction of ozone also involves sunlight, so the process intensifies during springtime, when the levels of solar radiation at the pole are highest, and PSCs are continually present. Although ozone levels vary seasonally, stratospheric ozone levels have been observed to be decreasing annually since the 1970s. Mid-latitudes have experienced greater losses than equatorial regions. In 1997, the Antarctic ozone hole covered 24 million km² in October, with an average of 40 % ozone depletion and ozone levels in Scandinavia, Greenland and Siberia reached an unprecedented 45 % depletion in 1996.

Unit 2

ENVIRONMENTAL AND HEALTH EFFECTS

The amount of UV reaching the earth's surface has been shown to correlate with the extent of ozone depletion. In 1997, UV-B levels continued to rise at a rate of 2 % per annum. Increased UV levels at the earth's surface are damaging to human health, air quality, biological life, and certain materials such as plastics. Human health effects include increases in the incidence of certain types of skin cancers, cataracts and immune deficiency disorders. Increased penetration of UV results in additional production of ground level ozone, which causes respiratory illnesses. Biologically, UV affects terrestrial and aquatic ecosystems, altering growth, food chains and biochemical cycles. In particular, aquatic life occurring just below the surface of the water, where plant species forming the basis of the food chain are most abundant, are adversely affected by elevated levels of UV radiation. The tensile properties of certain plastics can be affected by exposure to UV radiation. Depletion of stratospheric ozone also alters the temperature distribution in the atmosphere, resulting in indeterminate environmental and climatic impacts.

Despite existing regulation of ODS, there continues to be severe ozone depletion and maximum stratospheric levels of chlorine and bromine are predicted to occur only during the next decade. Without further measures, the ozone hole will continue to exist beyond 2050. However, the success of the Montreal Protocol has already been observed in terms of changes in the concentrations of man-made chlorine-containing chemicals in the troposphere (i.e. the rates of release of ODS to the atmosphere have been reduced). Additional measures are currently being proposed by the European Commission to accelerate the phase out of various ODS and thereby to provide much-needed additional protection for the ozone layer.

Unit 3

PROTECTING THE OZONE LAYER

You have already taken the first steps to help protect the ozone layer by informing yourself of the problem and its causes. Try to find out as much as you can about the problem from publications, schools or public libraries. The only way to mend the ozone hole is to stop the release of CFCs and other ozone depleting substances (ODS) into the atmosphere. European legislation aims to achieve this by phasing out ODS as soon as viable alternatives become available, and where no such alternatives are available, restricting the use of these substances as far as possible. However, there are a number of practical initiatives, which can be taken at the individual level to help protect the ozone layer: try to use products, which are labeled "ozone-friendly". Ensure technicians repairing your refrigerator or air conditioner recover and recycle the old CFCs so they are not released into the atmosphere. Vehicle air conditioning units should regularly be checked for leaks. Ask about converting your car to a substitute refrigerant if the a/c system needs major repair. Remove the refrigerant from refrigerators, air conditioners, and dehumidifiers before disposing of them. Help start a refrigerant recovery and recycling program in your area if none already exists. Suggest school activities to increase awareness of the problem and to initiate local action.

There is a direct link between increased exposure to UV radiation and elevated risk of contracting certain types of skin cancers. Risk factors include skin type, sunburn during childhood, and exposure to intense sunlight. Recent changes in lifestyle, with more people going on holiday and deliberately increasing their exposure to strong sunlight, are partly responsible for an increase in malignant skin cancers. In order to minimize the risk of contracting skin cancer, cover exposed skin with clothing or with a suitable sunscreen, wear a hat, and wear UV-certified sunglasses to protect the eyes.

Unit 4

THE THINNING OF THE ARCTIC ICE CAP

The geographic North Pole was last covered with water about 50 million years ago, during the early part of the present Cenozoic Era. Known as the age of Mammals and the recent Life Era, this modern age, which saw the dawn of human beings began 65 million years ago. This global view of the Arctic Ocean, captured using advanced radar that sees through all weather conditions, is enabling researchers to determine how global warming may be affecting the Polar Ice Cap. The Arctic sea ice is providing clues to the Earth's overall climatic condition. During the Cenozoic Era, the continents that formed Pangea, the super continent, had begun to move into their present positions. As these continents drifted northward, they formed the shoreline of the Arctic Ocean, which lies directly over and around the geographic North Pole. About 15 million years into the Cenozoic Era (about 50 million years ago), the Arctic Ice Cap formed over the Arctic Ocean, virtually covering the entire sea with a sheet of ice. As the continents continued to move, climatic changes brought about by shifts in water and air currents caused the Earth to gradually cool down. This created the glaciers that mostly dominated the land masses through the end of the Great Ice Age in the Pleistocene Epoch, about 10,000 to 1.8 million years ago, and that still exist today on Greenland. The same climatic conditions that created the glaciers, which are essentially great ice sheets formed on land, also formed the Arctic Ice Cap. Yet the ice sheet covering the Arctic Ocean rests directly on top of the ocean instead of land, and it has remained relatively stable and frozen since it was formed.

The Arctic Ice Cap is shrinking dramatically. Roughly the size of the United States, it has lost an area roughly the combined size of Massachusetts and Connecticut each year since the late 1970s. Since the 1950s, when data was first collected on the Arctic, the ice cap has lost nearly 22 % of its volume. It is projected that in another 50 years, nearly half of the Arctic Ice Cap will be gone. So what is going on? We know that the Arctic Ice Cap, frozen for 50 million years, is melting. We also know that above normal Arctic temperatures from the ocean water to the air currents account for the melting. Global warming is real, and the melting of the Arctic Ice Cap is one of its symptoms. Scientists have determined that the Earth's surface temperature has increased an average of 1 °F since the beginning of the 20th century, which is enough to trigger significant global climatic changes. According to the United States Environmental Protection

Agency (EPA), the 20th century was the warmest century of the last millennium, and the 1990s was the warmest decade. Increased average temperatures have been recorded in both the southern and northern hemispheres, although some regions have recorded cooler temperatures.

Unit 5

THE EARTH WARMS

Using the best available data, many scientists believe this warming trend will cause an additional 5 – 10 °F increase in the average global temperature in the next century. Still, there are many scientists who believe the global warming trend may reverse itself within the next century. The fact is, there is not enough known about WHY the climate is changing the way it is for scientists to determine what really is going on or what will happen in the future. But there is enough information to tell us several things. Human activity, such as the burning of fossil fuels, is releasing enormous volumes of carbon dioxide and other greenhouse gases that are contributing to the Earth's natural greenhouse effect, the Earth's natural process of trapping the sun's warmth. About 5 – 6 billion tons of carbon dioxide are emitted each year due to human activity. This increase results in additional heat being trapped within the Earth's atmosphere.

The Polar Ice Cap itself reflects sunlight energy (heat) back into space, rather than the heat being absorbed by the Earth. This is called albedo, the amount of sunlight reflected by an object. As the Ice Cap melts however, the albedo is reduced and the Earth absorbs the energy that is not reflected. Thus, more heat is retained in the Arctic. 3. The Earth's natural carbon cycling process the amount of carbon dioxide that enters and leaves the atmosphere as a result of the natural cycle of water exchange from and back into the sea and plants account for about 95 % of the carbon dioxide in the atmosphere which contributes to the greenhouse effect.

Ocean waters constantly move along a giant oceanic conveyer belt, which travels, from the North Atlantic to the Atlantic, Pacific and Indian Oceans. This circulation distributes warm tropical waters northward, which are then chilled and returned to the warmer southern oceans. This heat exchange also has a significant impact on global weather patterns. Ocean waters are constantly on the move, carrying warmer waters north toward the Arctic and cooler waters south to the temperate and tropical zones. This ocean circulation is referred to as the great oceanic conveyer belt, which is a single continuous current that carries chilled water from the North Atlantic into the Atlantic, Indian and Pacific basins. The conveyer belt returns water warmed in the tropics back to the North Atlantic. Ocean currents also affect global heat exchange by redistributing heat, especially in coastal regions. In fact, the oceans have the greatest impact on the Earth's climate.

Unit 6

OCEAN CURRENTS

There are more people living today than there used to be (over 6.2 billion of us worldwide!), and we all have the same needs for places to do business and live our lives to the most productive and healthy extent possible. So, this "natural" outgrowth kind of makes sense. But, with all of this expansion, I am also seeing fewer natural places, trees, wild lands, and places where farms and crops have been. So, maybe this outward growth needs further reflection.

If you are not sure what to think about all of the new growth and development in your community, you are not alone. Let's call it by its name: urban sprawl. Urban sprawl is the term we use to describe the expansion of human development out and away from city centers. And this phenomenon is eating up valuable countryside at an alarming rate, 365 acres per hour in the US alone, according to the Natural Resources Defense Council (NRDC). Wilmington, NC, is neatly sandwiched between the Cape Fear River to the west and the Atlantic Ocean to the east. While it is totally surrounded on the north, west and south by rural areas, its population grew over 35 percent from 1990 to 2000: from just over 56,000 to nearly 76,000 people. Although its population size may pale in comparison to major centers such as New York, Tokyo and London, its rate of growth was double the world population growth rate during the same time. The success and attractiveness of the area naturally invite new challenges via urban sprawl as the Hoggard High School students have observed.

One place that has been noticeably affected by urban sprawl is on the Atlantic coast in my home state of North Carolina. Wilmington and its surrounding coastal and farm area is smaller than New York, Tokyo, Paris, London, Los Angeles, Sydney, Beijing, Amsterdam and other urban centers, but urban sprawl is just as big an issue here. My generation has some pretty unique thoughts about urban sprawl, although they have not had the opportunity to see the way things used to be like our parents did. The way we see it, we are preparing to inherit a world of development that has been shaped by all those who came before us. And what we think of urban sprawl, therefore, is extremely important because it will determine our approach to the future. Recently, I had the opportunity to speak with a group of environmental science students, ages 16 – 18, at Wilmington's Hoggard High School about this issue. In listening to them, urban sprawl began to take on the manifestation of a double-edged sword. Progress is a good thing, but at what cost to other things we have appreciated and even taken for granted?

Unit 7

THE ROLE OF PLANTS

Plants may take an active part in defending themselves from severe herbivore damage by attracting carnivorous arthropods. Studies have shown that plants damaged by herbivore feeding produce chemical cues, which signal natural enemies on where to find prey. Volatile chemical compounds emitted from plant tissue most likely originated to repel the attacking pest, but also serve a secondary function, attractants to parasitoids and predators in search of prey. Plant phytochemical responses are most likely induced by the interaction of substances from the herbivore with plant tissue. These volatiles, primarily determined to be terpenoids, differ from those emitted in response to mechanical damage. Several studies have been conducted on these compounds, termed exogenous herbivore elicitors of plant responses, including work with spider mites and different lepidopterous caterpillars. These chemicals are specific volatiles, which affect predator foraging behavior in a range of behavioral responses.

The ability of the natural enemy to recognize chemical cues and identify its source of origin determines its effectiveness as a predator. Qualitative differences occur between the odors emitted by different plant species, which the predator can distinguish from each other as well as from background odors. In addition, predators show some ability to learn and distinguish between odors not only from different herbivore species but also between different plant species. Studies have examined these interactions in a variety of systems. Lima bean plants infested with the mite *Tetranychus urticae* produce terpenoids and methyl salicylate, which attract the predator mite *Phytoseiulus persimilis*. Substances found in caterpillar regurgitant are necessary for the plant to begin manufacturing and releasing indole, terpenes and sesquiterpenes, which attract the parasitoid *Cotesia marginiventris*. Investigation of exogenous elicitors continues in order to enhance biological control capabilities by manipulating attraction mechanisms of predators and parasitoids. Plant defense against herbivores has traditionally been studied in a bitrophic context that is to say in a predator-prey or predator-plant context. But with further research, it has become more evident that the plant can directly influence predator-prey populations on itself. Studies indicate that a plant signals for the influx of natural enemies to eliminate herbivores from feeding on it. When the plant is considered in this intercommunication, then defenses can be studied in a tritrophic context: plant-herbivore-carnivorous arthropod. This acknowledges that there is a signaling interaction between the plant and the insect.

Unit 8

PLANTS CONTROL HERBIVORE FEEDING

A plant's means of defense has traditionally been viewed and studied as a "direct defense". This comprises a plant's production of toxic and repellent chemical compounds to directly dissuade insects from feeding on tissues within a tritrophic framework, plant defense can be viewed as "indirect defense"; the plant may be involved in the control of carnivorous arthropods by attracting their natural enemies. There remains some question as to what exactly the evolutionary development of these chemical signals has been. Did the plant evolve so as to release volatiles in order to attract the natural enemies of the pest? Or are the insect carnivores eavesdropping on a chemical plant defense system aimed at the attacking pest. It is thought that the plant does undergo physiological changes, which increase the level of toxins expressed in the tissues, thus making the plant unpalatable for further herbivore damage.

As seen in corn and cotton plants, herbivory over time causes the plants to become less palatable to the feeding larvae, corresponding to the increase in production of herbivore induced volatiles. Studies have shown that foraging behavior of carnivorous arthropods relies on a variety of stimuli to locate hosts. Chemical cues play a major role in information gathering; they may come from the herbivore, from the plant, or from the interaction of the herbivore and the plant. Whichever it may be, it is essential that the carnivore be able to detect these chemical cues and identify them. The most reliable cues come from chemicals emitted from the herbivore itself. These most directly and clearly inform a carnivore of a suitable prey's presence. But these are difficult to detect long distances away. Plant derived cues are thought to be more detectable, even at longer distances. So if a carnivore is to be successful at foraging, it needs to maximize its ability to recognize foraging cues so it can survive and ultimately reproduce. The process of natural selection then has chosen for those carnivores that can readily detect reliable foraging cues. Fortunately for the plant, the most reliable long-range foraging cues for predators/parasitoids are the herbivore induced plant volatiles. This form of intercommunication allows for the continued survival of each species – the plant rids itself of damaging pests and the insect carnivore finds food.

Unit 9

ENVIRONMENTAL INTERACTIONS, CYCLES, AND SYSTEMS

Inquisitive children sometimes ask whether the air they breathe was once breathed by a dinosaur. It may have been. The oxygen that provides the energy to power your body has been used many times by many different organisms, and the carbon, hydrogen, and other elements from which your body is made have passed through many other bodies during the almost four billion years that life has existed on our planet. All the materials found at the surface of the Earth, from the deepest ocean trenches to the top of the atmosphere, are engaged in cycles that move them from place to place. Even the solid rock beneath your feet moves, as mountains erode, sedimentary rocks are subducted into the Earth's mantle, and volcanic activity releases new igneous rock. There is nothing new or original in the idea of recycling! The cycles proceed at widely differing rates and rates that vary from one part of the cycle to another.

Cycling rates are usually measured as the time a molecule or particle remains in a particular part of the cycle. This is called its 'residence time' or 'removal time'. On average, a dust or smoke particle in the lower atmosphere (the troposphere) remains airborne for a matter of a few weeks at most before rain washes it to the surface, and a water molecule remains in the air for around 9 or 10 days. Material reaching the upper atmosphere (the stratosphere) resides there for much longer, sometimes for several years, and water that drains from the surface into ground water may remain there for up to 400 years, depending on the location. Water that sinks to the bottom of the deep oceans eventually returns to the surface, but this takes very much longer than the removal of water molecules from the air. In the Pacific Ocean, for example, it takes 1000 to 1600 years for deep water to return to the surface and in the Atlantic and Indian Oceans it takes around 500 to 800 years. This is relevant to concerns about the consequences of disposing industrial and low-level radioactive waste by sealing it in containers and dumping them in the deep oceans. Those monitoring the movement of materials through the environment often make use of labelling, different labels being appropriate for different circumstances. In water, chemically inert dyes are often used. Certain chemicals will bond to particular substances. When samples are recovered, analysis reveals the presence or absence of the chemical label. Radioisotopes are also used. These consist of atoms chemically identical to all other atoms of the same element, but with a different mass, because of a difference in the number of neutrons in the atomic nucleus. Neutrons carry no

charge and so take no part in chemical reactions, the chemical characteristics of an element being determined by the number of protons, with a positive charge, in its atomic nucleus.

Unit 10

Factory smoke belching forth on a rainy day may reach the ground within an hour or even less; the exhaust gases from an aircraft flying at high altitude will take much longer, because they are further from the ground to start with and in much drier air. It is worth remarking, however, that most of the gases and particles which pollute the air and can be harmful to health have very short atmospheric residence times. Sulphur dioxide, for example, which is corrosive and contributes to acid rain, is unlikely to remain in the air for longer than one month and may be washed to the surface within one minute of being released. The atmospheric residence time for water molecules is calculated from the rate at which surface water evaporates and returns as precipitation.

The deep oceans are much less accessible than the atmosphere, but water carries a natural label in the form of carbon-14(^{14}C). This forms in the atmosphere through the bombardment of nitrogen ^{14}N by cosmic radiation, but it is unstable and decays to the commoner ^{12}C at a steady rate. While water is exposed to the air, both ^{12}C and ^{14}C dissolve into it, but once isolated from the air the decay of ^{14}C means that the ratio of the two changes, ^{12}C increasing at the expense of ^{14}C . It is assumed that ^{14}C forms in the air at a constant rate, so the ratio of ^{12}C to ^{14}C is always the same and certain assumptions are made about the rate at which atmospheric carbon dioxide dissolves into sea water and the rate at which water rising from the depths mixes with surface water. Whether or not the initial assumptions are true, the older water is the less ^{14}C it will contain, and if the assumptions are true the age of the water can be calculated from its ^{14}C content in much the same way as organic materials are ^{14}C -dated. Carbon, oxygen, and sulphur are among the elements living organisms use and they are being cycled constantly through air, water, and living cells. The other elements required as nutrients are also engaged in similar biogeochemical cycles. Taken together, all these cycles can be regarded as components of a very complex system functioning on a global scale. Used in this sense, the concept of a 'system' is derived from information theory and describes a set of components which interact to form a coherent, and often self-regulating, whole. Your body can be considered as a system in which each organ performs a particular function and the operation of all the organs is coordinated so that you exist as an individual who is more than the sum of the organs from which your body is made.

Unit 11

GROUND WATER UTILIZATION

Water is vital for realising full potential of agriculture sector and Country's Development. Optimum development and efficient utilization of our water resources, therefore, assumes great significance. The erstwhile Department of Irrigation was redesignated as Ministry of Water Resources in October 1985, and assigned the nodal role for development, conservation and management of water as a National Resource. Water being the most crucial element, National Water Policy was adopted in September 1987. The policy recommends need for integrated and multi-disciplinary approach to planning, formation and implementation of projects. It also lays down priority areas for planning and operation of systems. Highest -priority has been assigned to drinking water followed by irrigation, Hydropower, navigation, industrial and other users. The Policy further recommends that the quality of Surface and Ground Water should be monitored. In Flood Management Sector, the need for having a 'Master Plan' for Flood Control and Management for each Flood Prone- basin through sound Watershed Management was recognised in the policy and establishment of extensive network for flood forecasting recommended. The policy further recommended the erosion of land by sea or river be minimised by suitable cost-effective measures. Therefore, planning and management of this resource and its optimal, economical and equitable use with application of Science and Technology has become a matter of utmost urgency.

The Ministry is responsible for broadly laying down Policies and Programmes for development and regulation of the Country's Water Resources. Its role essentially covers Sectoral Planning, Coordination, Policy Guidelines, technical examination, assistance in water resources projects and facilitation of external help and assistance in resolution of disputes as a result of inter-state problems. The Central Ground Water Authority was set up in 14th January 1997 under the Environment protection Act, 1986. It is vested with the responsibility of making an assessment.

Unit 12

GROUND WATER POTENTIAL

The total replenishable groundwater in India is estimated to be about 43.39 million hectare metres per year (about 43.86 billion cubic metres). Out of it, about 7.13-mha m/yr of groundwater is reserved for domestic and industrial uses and 36.26-m.h.a m/yr is available for irrigation. According to an estimate, there has been a development of 37.24 per cent of available groundwater resources. It is a sad affair that out of 5,711 block / talukas / mandalas / watersheds in the country, 310 block / talukas / mandalas / watershed are categorised as “over-exploited”. Over exploited indicates the stage of groundwater development which exceeds the annual replenishable recharge. Besides, 160 blocks / talukas / mandals / watersheds are found and classified ‘Dark’ i.e. the stage of ground water development is more than 85 per cent. Various Steps Various steps in the direction of regulation and control of the development and management of ground water resources in the country are taken as under: (1) National Commission for Integrated Water Resources Development Plan The National Commission for Integrated Water Resources Development Plan was constituted in September 1999. The commission submitted its report to the union Government in December 1999. The report is quite exhaustive and valuable. Several recommendations are made. These are mainly for development of water resources for drinking, irrigation, industrial, flood control, transfer of surplus water to deficit area etc. (2) Central Water Commission The Central Water Commission (CWC) New Delhi, is the National Apex Organization in Water Resources Development charged with the responsibility of initiating, co-ordinating and furthering in consultation with state government concerned, schemes for control, conservation and utilizations of water resources for irrigation, flood control, Hydro-power Generation and navigation through the Country. With its rich expertise built over the last four decades, CWC has developed considerable technological know-how in planning, investigation, design, project appraisal and management of Water Resources Development. It is sharing its knowledge and expertise with the Developing Countries. The commission’s work is divided into four functional wings via Water Planning, Design and Research, River Management and Planning and Progress supported by Administration and Co-ordinate Wing. The commission has set-up a National of 570 Hydrological Observation Stations. Since most of the Stations were set-up during 1960’s and early 1970’s Data Records are now available for nearly two

decades. Besides, Guage and Discharge Observation and Sediment Flow Measurements are carried out in selected 248 Stations and Water Quality observation in stations are in operation in the Ganga Basin over the Past Two Decades. During 1978–1985, Water Quality Monitoring with respect to Population Loads, was conducted at 42 Selected Stations on the Ganga under a ‘Special Scheme’ and a Status Report’ on water quality of the Ganga System was published in August, 1987. Although the ‘Special Scheme’ was closed, Water Quality Monitoring in the Ganga System was continued and the ‘Status Report’ on the water quality of Ganga System published in 1987 is being up-dated.

ADDITIONAL GRAMMAR TASKS

1. Tense revision

Simple Past or Present Perfect?

Read this extract from an article called “Famous Mums and Dads” and complete the gaps with the best form of the verb in brackets.

It _____ (be) my birthday yesterday. I’m 14 years old. Some people say I’m lucky but I don’t think so. Imagine, in my life I _____ (go) to eight different schools and I _____ (never stay) anywhere long enough to make a best friend. I _____ (live) in so many different houses that I can’t remember some of them. In fact, last year we _____ (move) house three times. It’s true, there are some good things: I _____ (meet) some really famous people and we _____ (have) some great holidays - I _____ (go) to Disneyland at least four times, but never with mum and dad. When I _____ (be) young, I always _____ (have) a nanny, and she _____ (take) me on holiday. I’m staying with my aunt and uncle at the moment because my dad’s making a film in France and my mum _____ (go) to Los Angeles.

Present Perfect or Present Perfect Continuous or Simple Past?

- a) I _____ (know) Susan for about five years.
- b) Mum had to take Tim to the dentist because he _____ (break) his tooth.
- c) My husband _____ (have) his mobile phone for a week and it isn't working.
- d) I hope Karen rings soon because Rick _____ (wait) by the phone for hours.
- e) We _____ (go) to the new sports centre since June. Why don't you come and try it?
- f) Giuseppina's English is getting much better. She _____ (practise) a lot recently.
- g) You look much slimmer. _____ (you / diet)?
- h) John's boss _____ (decide) to have a holiday next month.
- i) Goodbye and thanks for having us. We _____ (enjoyed) this evening.
- l) Teacher: Ok. _____ (everyone / finish) the exercise? Fine. Let's go on.

Past Perfect or Simple Past?

- a) When the film _____ (start) Beth realised she _____ (see) it before.
- b) I _____ (be) surprised to find that Mr Cole _____ (leave) the city the day before.
- c) Helen _____ (feel) much better after she _____ (have) a good sleep.
- d) The rain _____ (stop) by the time we _____ (get) to the beach.
- e) Melissa _____ (be) angry because her brother _____ (eat) all the chocolate.
- f) When Julia _____ (meet) Scott, she _____ (not realise) he _____ (be married) before.
- g). Geoff _____ (not see) his parents for fifteen years so he _____ (feel) rather nervous at the airport.
- h) The jazz singer _____ (sing) an old blues song that I _____ (never hear) before.
- i) When I _____ (write) the letter I _____ (post) it straightaway.
- j) Before Marti _____ (become) Mrs Stephens' personal assistant she _____ (work) as a receptionist.
- k) After Sarah _____ (know) Alan for months he _____ (ask) her to have dinner with him. **Choose the right variant:**

1. They are watching a film
 at the moment lately
2. I have been learning this poem
 just since morning
3. He has read 3 books
 at the moment lately
4. She looks in
 every day for 2 hours
5. Nancy hascome back.
 just at the moment
6. I havelooked up this word in the dictionary.
 already lately
7. They have been flying
 every day for two hours
8. Whatat the moment?
 are you seeing do you see

9. Why is she crying? Sheher toy.

is losing has lost

10. Hea letter for an hour already.

has been writing writes

Complete the dialogues:

1.

A: When _____ (you / join) the company?

B: Ten months ago.

2.

_____ (you / ever/ work) in Europe?

3. That's the worst presentation _____ (I / see) in my life.

4. Sales _____ (rise) in 1993 but then _____ (fall) in 1996.

5. Ryan is still working. He _____ (not / finish) his homework yet.

6.

A: What _____ (you / do) when I _____ (call) you last night?

B: I _____ (sit) in a cafe when you _____ (call).

7. When you _____ (arrive) at the party, who _____ (be) there?

8. Lisa isn't a Canadian. I _____ (believe) she comes from France.

9. I _____ (have) lunch in the cafeteria every day.

10. Susie _____ (watch) a film when she _____ (hear) the noise.

11. Yesterday I _____ (go) to the library, next I _____ (have) a swim, and later I _____ (meet) Lindsey for lunch.

12. We _____ (play) tennis when John _____ (hurt) his ankle.

13. When I _____ (walk) into the room this morning, everyone _____ (work).

14. I _____ (go) to Montreal next Thursday. Do you want to come?

15. Carlos is rich — he _____ (drive) a Mercedes.

16. I _____ (think) you're crazy!

17. I _____ (speak) to him last week.

18. The reason my skin is so brown is that I _____ (just / come) back from a trip to Barbados.

19. It _____ (snow) quite hard — perhaps we shouldn't go out tonight.

20. Look! Yuki _____ (cry)! Let's go see what's the matter.

Choose the correct grammar form:

1. Who _____ food in your family when your Mom is away?

- cooks is cooking has been cooking cooked
2. Where is John? – He his car in the garage.
- repairs is repairing has repaired repaired
3. I love this film. I _____ it four or five times already.
- see have seen had seen
4. Have you visited any European countries? – Yes. I ___ Spain and Italy two years ago.
- visited have visited had visited
5. She _____ the living room when she heard a strange noise in the kitchen.
- has cleaned has been cleaning was cleaning
6. I envy you. At five tomorrow you _____ some tan on the beach at the seaside.
- will get will be getting will have gotten will have been getting
7. You arrived two days ago. You are going to leave next Sunday. By the time you leave, you _____ nine days here.
- spend have spent are spending will have spent
8. Where is he? I _____ for him since three o'clock!
- am waiting have been waiting was waiting had been waiting
9. I went to Belgium last month. I _____ there before. It's a beautiful country.
- have never been had never been never was never been
- 2) He said that his mother would be very upset when she _____ that he had lost his job.
- 3) learns learned had learned would learn

Passive voice

1. a) They were interviewing her for the job.

She _____ for the job.

- was being interviewed
- was interviewed
- has been interviewed

b) Tom is writing the letter.

The letter _____ by Tom.

- was written
- is being written

- has been written
- c) Everyone understands English.
English _____ by everyone.
- is understood
- has been understood
- was understood
- d) The employees brought up this issue during the meeting.
This issue _____ by the employees during the meeting.
- has been brought up
- is brought up
- was brought up
- e) The professor told him not to talk in class.
He _____ by the professor not to talk in class.
- has been told
- was told
- was being told
- f) They say that women are smarter than men.
Women _____ to be smarter than men.
- were being said
- were said
- are said
- g) The fire has destroyed the house.
The house _____ by the fire.
- has been destroyed
- was being destroyed
- is destroyed
- h) She would have told you.
You _____ by her.
- would have been told
- would be told
- were being told
- i) She would reject the offer.

The offer _____ by her.

- will have been rejected
- would be rejected
- will be rejected

j) This surprises me.

I _____ by this.

would have been surprised

will be surprised

am surprised

k) The causes of the financial crisis _____ in many articles.

- Has been dealt
- Will have been dealt
- Have been dealt
- Were being dealt

l) The decline in quality of services _____ by the experts.

- Must have studied
- Must have study
- Must be studied
- Must will be studied

m) The words _____ on the sand _____ a stick.

- Was written / by
- Were written / with
- Have been written / by
- Will has been written / with the help of

n) No announcement about the test results _____ so far.

- Has been made
- Have been made
- Was made
- Were made

o) At present Jillian _____ for heart problem.

- Is been treated
- Has being treated
- Was treated
- Is being treated

p) Measures should _____ to avoid such a problem in future.

- Take

- Be taken
 - Have been taken
 - To be taken
- q) How would you feel if you _____ to spend hours in a wheel chair?
- Have been forced
 - Are forced
 - Were forced
 - Will be forced
- r) A lot of money _____ from the bank on Monday.
- Has been stolen
 - Have been stolen
 - Were stolen
 - Was stolen
- s) Your order is guaranteed _____ within 3 days.
- To deliver
 - Will be delivered
 - To be delivered
 - To will have been delivered
- t) When did you discover that the child _____?
- Was kidnapped
 - Has been kidnapped
 - Had been kidnapped
 - Had kidnapped
- u) The famous actor _____ for the magazine.
- Will interviewed
 - Will be interviewed
 - Will interview with me
 - Was already interviewed
- v) I don't know when the goods I've ordered _____ to my place.
- Will be delivered
 - Are delivered
 - Will have been delivered
 - Will be being delivered
- w) The hotel bill _____ by my wife early in the morning.
- Was payed
 - Will payed
 - Will paid

- Was paid
- x) Many new houses _____ by next year.
- Will built
 - Will build
 - Will have been built
 - Will be built
- y) Some antique vases _____ in the old mansion.
- Were found
 - Were find
 - Were founded
 - Were finded
- z) Unfortunately, the flight _____.
- Was just delayed
 - Had just been delayed
 - Is just been delayed
 - Has just been delayed
2. a) Our tent _____ in the night by the wind.
- Was blew
 - Was blown
 - Had been blew
 - Had been blown
- b) I _____ by the Doctor and _____ a prescription.
- Was examined / was given
 - Was examined / given
 - Was examined / had been given
 - Have been examined / was given
- c) Two soldiers _____ when the Dean came in.
- Were questioning
 - Were being questioned
 - Had been being questioned
 - Were questioned
- d) Mike said he _____ at the next lesson.
- Will be asked
 - Would be asked
 - Will be being asked
 - Would asked

Passive voice

1. How many doors ... yesterday?
 - a) had painted
 - b) were painted
 - c) are painted
 - d) painted
2. His new book ... in every book shop in the town.
 - a) is sold
 - b) sold
 - c) were sold
 - d) has sold
3. His umbrella ... quite a lot of money.
 - a) is cost
 - b) have cost
 - c) costs
 - d) was cost
4. Some time ago a letter from my brother
 - a) was come
 - b) has come
 - c) came
 - d) come
5. The students ... everything they need their future profession.
 - a) Teach
 - b) Was taught
 - c) Taught
 - d) Are taught
6. What ... in your language?
 - a) This film is called
 - b) Is this film called
 - c) Is called this film
 - d) This film called
7. ... to the children on time?
 - a) Were the toys sent
 - b) Did the toys were sent
 - c) Did the toys send
 - d) Was the toys sent

8. The Arabic language ... in Turkey.
- a) not spoken
 - b) don't spoken
 - c) isn't spoken
 - d) don't speak
9. This door ... when there are not many people in the shop.
- a) close
 - b) closed
 - c) was close
 - d) is closed
10. ... a card to your parents?
- a) Was you write
 - b) Did you write
 - c) Were you written
 - d) Did you written

- 1) The letters (type) at the moment.
- type
 - are being typed
 - types
- 2) Guernica (paint) by Picasso.
- has painted
 - is painted
 - paints
- 3) The parcel (not/deliver) yet.
- has not been delivered yet
 - has not deliver
 - have not yet been delivered
- 4) Alpha Romeo cars (make) in Italy.
- made
 - make
 - are made
- 5) The thief (arrest) late last night.
- has been arrested

- was arrested
- had been arrested
- 6) The announcement (make) tomorrow.
 - will be made
 - will make
 - is maked
- 7) Good evening ladies and gentlemen. I (be) Charles Trump.
 - am
 - was
 - do
- 8) I (report) from BBC news headquarters.
 - report
 - reported
 - am reporting
- 9) Earlier this evening an earthquake hit Cairo, Egypt. Many people (kill);
 - killed
 - are killed
 - have been killing
- 10) many more (injure)
 - will be injured
 - am injured
 - are injured
- 11) and much of the city (destroy).
 - had been destroyed
 - destroys
 - is destroyed
- 12) Emergency teams (already/set up) all over the city.
 - already has set up
 - already have been set up
 - have already been set up

13) They (help) the injured.

- are helping
- are being helped
- are being helping

14) Firemen and local people (dig) in the wreckage

- dug
- are digging
- were digging

15) as many people (still/trap).

- still are trapped
- trapped still are
- are still trapped

16) We (expect) a special, in-depth report from our reporters at any moment.

- being expected
- are expected
- are expecting

17) As soon as we (hear) from them we will release another news bulletin.

- hear
- will hear
- are heard

18) Anyone who (wish) to enquire about family or friends should ring the following emergency numbers - 010 888 - 38691/2/8/0 for information.

- is wished
- wishes
- are wished

19) We (be back) with the special bulletin.

- will be
- are back
- are being

20) A BBC special news team (leave) for Cairo immediately.

- is leaving
- will be leaving
- has been leaving

Choose the correct grammar form:

1 What's the matter? My car ____.

- a)** was just stolen; **b)** has just been stolen; **c)** is just stolen;
-

2 One of the theatres in our city ____ now.

- a)** is being reconstructed; **b)** was being reconstructe; **c)** will be reconstructed;
-

3 That house ____ a long time ago.

- a)** has been sold; **b)** was sold; **c)** is sold;
-

4 Jin said the room ____.

- a)** will have already been cleaned; **b)** will be cleaned; **c)** had already been cleaned;
-

5 All the banks ____ on Sundays.

- a)** are closed; **b)** had been closed; **c)** are been closed;
-

6 The documents ____ by 5 p.m.

- a)** will be signed; **b)** are signed; **c)** will have been signed;
-

7 We ____ on our way home yesterday.

- a)** were being followed; **b)** are being followed; **c)** have been followed;
-

8 My sister ____ to hospital tomorrow.

- a)** is being taken; **b)** will be taken; **c)** was taken;
-

9 The cake smells so nice. It ____.

- a)** will just be baked; **b)** has just been baked; **c)** is just baked;

10	The conference room ___ at the moment.	a) was being used;	b) had been used;	c) is being used;
11	When we arrived at the airport, we found that the flight ___.	a) had been cancelled;	b) is being cancelled;	c) has been cancelled;
12	The flowers in the flowerbeds ___ by this evening.	a) are being watered;	b) were watered;	c) will have been watered;
13	America ___ several centuries ago.	a) had been discovered;	b) was discovered;	c) will be discovered;
14	The floors in the office ___ every day.	a) are swept;	b) will have been swept;	c) were being swept;
15	An old woman ___ while she was living with her children.	a) is being looked after;	b) was being looked after;	c) will be looked after;
16	I think the money ___ back in the nearest future.	a) had been paid;	b) were paid;	c) will be paid;
17	My car ___ at the moment.	a) was being repaired;	b) has been repaired;	c) is being repaired;
18	The exams ___ by 3 in the afternoon.	a) will have been finished;	b) were being finished;	c) are being finished;
19	Olympic Games ___ every four years.	a) are held;	b) had been held;	c) will have been held;
20	When we returned home, the walls ___.	a) has been painted;	b) had been painted;	c) will be painted;

21	Two people ___ in a car accident yesterday.	a) were killed;	b) are killed;	c) were being killed;
22	I ___ before.	a) will never be mugged;	b) have never been mugged;	c) am never mugged;
23	Jill ___ if I don't come to her birthday party.	a) were offended;	b) will be offended;	c) are being offended;
24	I didn't realize our conversation ___ to.	a) will be listened;	b) is listened;	c) was being listened;
25	Jack said the letter ___ the next day.	a) would be sent;	b) will be sent;	c) is being sent;

VOCABULARY

A

- abat-vent** ~ зонт димової труби
abatement ~ боротьба із забрудненням
ability ~ здатність
absorbing ~ абсорбуюча здатність
absorptive ~ абсорбуюча здатність
abiocoen ~ абіоцен
abiogenesis ~ абіогенез
ablation ~ водна ерозія
ablution ~ очищення
abnormality ~ аномалія
abnormity ~ аномалія
aborigines ~ аборигени
abortion ~ викидень
abrasion ~ абразивний знос; стирання
absence of rainfall ~ відсутність опадів
absorbability ~ абсорбційна спроможність
absorbent ~ поглинач
abrasive ~ абразив
acoustic shock ~ поглинач звукового удару
absorber ~ поглинач
absorbing ~ абсорбція; поглинання
absorption meter абсорбціометр
absorptiometry ~ абсорбціометрія
absorption ~ поглинання
absorptivity ~ абсорбційна здатність
abstention ~ утримання
~ **from fishery** ~ утримання від рибного промислу
abstergent ~ очищуючий засіб
abstersion ~ очищення
abstraction of heat ~ відведення тепла
abstraction of river water забір річкової води
abstractor ~ водопостачальник
abundance ~ надлишок
abuse of fertilizers ~ зловживання добривами

abuse of pesticides ~ зловживання пестицидами
abutment ~ точка дотику
abyssal ~ абиссаль
acaricide ~ акарицид
acariphage ~ акарифаг
acarology ~ акарологія
accelator ~ акселатор
accelerate ~ прискорити
acceptability of risk ~ прийнятність ризику
accident ~ аварія
accidental ~ випадковий
acclimatation ~ акліматизація
acclimation ~ аклімація
acclimatization ~ аклімація
accomodation ~ аккомодація
accompaniment ~ супутній продукт
accretion ~ приріст
accumulator ~ акумулятор
accumulation of pollutants ~ акумуляція забруднюючих речовин
accumulation in body tissue ~ акумуляція у тканинах тіла
acescency ~ окислення
acetylcholine ~ ацетілхолін
acetylcholinesterase ~ ацетілхолінестераза
acid ~ кислота
acidation ~ підкислення
acidofuge ~ ацидофобний організм
acidophil ~ ацидофільний організм
acidophyte ~ ацидофіт
acidosis ~ ацидоз
acidulation ~ підкислення
acidification ~ підкислювання
~ **of soil** підкислювання ґрунтів
acidifier ~ кислотоутворювач
acidimeter ~ ацидометр
acoustic ~ поглинання звуку
active ~ активне поглинання
acoumetry ~ аудіометрія

acoustextile ~ акустична тканина
acoustics ~ акустика
architectural ~ архітектурна акустика
acoustimeter ~ вимірювач інтенсивності звуків
acre-foot ~ акрофут
acrophyte ~ високогірна рослина
act of god ~ форс-мажор
actinism ~ актинізм
actinometer ~ актинометр
actinometry ~ актинометрія
actinomyces ~ актиноміцет
actinotoxemia ~ зміни крові через опромінення організму
action ~ дія
activity ~ діяльність
activation ~ активація
actual ~ дійсний
adenosine triphosphoric acide ~ аденозинтрифосфорна кислота
alkali accumulation ~ накопичення лугу
amino ~ амінокислота
antibiotic ~ антибіотична дія
antiseptic ~ антисептична дія
atomic ~ атомний
atmospheric ~ атмосферне поглинання

В

bacterial ~ бактеріальна дія
bactericidal ~ бактерицидна дія
bacteriostatic ~ бактеріостатична дія
biological accumulation ~ біологічна акумуляція
biological of radiation ~ біологічна діяльність випромінювання
biological ~ біологічна активність

С

carbon ~ вугільний абсорбер
chromosom alaberration ~ хромосомна аберація
coagulation ~ коагулююча здатність
combining ~ комбінаційна здатність

communal ~ побутова діяльність
control ~ регуляція
corrosive ~ корозійна дія
cumulative ~ кумулятивна дія

D

desoxiribonucleic ~ дезоксирибонуклеїнова кислота
degradative ~ здатність розкласти
dermal ~ поглинання через шкіру
destructive ~ руйнівна дія
dispersing ~ диспергованість
diurnal ~ денна активність

E

elective accumulation of radioisotopes ~ вибіркоче накопичення
радіоізоіопів
environmental abuse ~ нераціональне використання природних ресурсів
emulsifying ~ емульгуємість
environmental ~ природоохоронний захід
environmental ~ природоохоронна діяльність
eolian ~ еолова активність
erosive ~ ерозійна дія
equivalent acidity ~ еквівалентна кислотність
exchange acidity ~ обмінна кислотність

F

flood ~ захист від паводку
fluvial ~ річна абразія
flight ~ льотна активність
foliar ~ поглинання листям
functional accumulation ~ функціональна кумуляція
fulvic acids ~ фульвокислоти

G

genetic ~ генетична здатність
germinating ~ схожість
groundwater ~ поповнення запасів підземних вод

H

heat ~ 1) термічна активація
2) теплоутилізаційний абсорбер
3) поглинання тепла

higher nervous ~ вища нервова діяльність

I

initial abstraction ~ початкове затримання стоку

inhibitory ~ інгібіторна дія

irreplaceable amino ~ незамінна амінокислота

insecticidal ~ інсектицидна діяльність

L

lakeacidity ~ кислотність озер

leaf abscission ~ листопад

leaf ~ поглинання листям

light ~ поглинання світла

M

materialaccumulation ~ матеріальна кумуляція

measurement accuracy ~ точність вимірювання

metabolic ~ метаболічна активність

microbial ~ діяльність мікробів

microbiological ~ мікробіологічна активність

mud accumulation ~ замулювання

N

natural organic ~ природній органічний абсорбент

noise ~ зниження рівня шуму

O

oxygen ~ поглинання кисню

P

pollution ~ зменшення забруднення

polymeric ~ полімерний поглинач

poisonous ~ отруйна дія
potable abstraction ~ забір води для питних потреб
photosynthetic ~ фотосинтетична активність
protective ~ захисна дія
public water supply abstaractions ~ водозабори для господарсько-питного водопостачання
precipitation acidity ~ кислотність опадів

R

rain acidity ~ кислотність дощу
recreational ~ рекреаційна активність
reflex ~ рефлекторна активність
residual ~ залишкова активність
replaceable amino ~ заміна амінокислота
regenerative ~ регенераційна здатність
reflex ~ рефлекторна дія
residual ~ наслідки
reproductive ~ репродуктивна здатність
repeated abstraction ~ повторний забір води
rhythmic ~ ритмічна активність
root ~ поглинання корінням
run off pollution ~ зменшення забруднюючого впливу зливових вод

S

scouring ~ размиваюча дія
seasonal ~ сезонна активність
selective ~ вибіркова дія
smoke ~ боротьба з димом
specific ~ специфична дія
soil acidity ~ кислотність ґрунтів
solar ~ сонячна активність
spontaneous ~ спонтанна активність
survival ~ виживання
surfase ~ поверхнева активність
systemic ~ системна дія

T

total acidity ~ загальна кислотність

toxic ~ токсична діяльність

V

vital ~ життєдіяльність

~ **of entomophage** ~ активність ентомофага

~ **of the radiation source** ~ активність джерела радіації

W

water ~ вода

water abstraction ~ зневоднення

water accumulation ~ накопичення води

water quality ~ погіршення якості води

water pollution ~ боротьба із забрудненням води

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